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GENERAL STUDIES (TEST CODE : 2086)

Name of Candidate	Sameer Khode Registration 1531081 date- 7 Aug 23			
Medium Eng./Hindi			Registration Number	
Center			Date	

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
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16	15	
17	15	
18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **HINDI & ENGLISH.**
   इसमें बीस प्रश्न हैं **हिन्दी और अंग्रेजी** में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

Is student recommended for One-to-One mentoring?

Recommended	Strongly Recommended

16-B, 2nd Floor, Above National Trust Building, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

Plot No. 857, 1st Floor, Banda Bahadur Marg (Opp. Punjab & Sind Bank), Dr. Mukherjee Nagar, Delhi- 110009

EVALUATION INDICATORS

1. **Contextual Competence**
2. **Content Competence**
3. **Language Competence**
4. **Introduction Competence**
5. **Structure - Presentation Competence**
6. **Conclusion Competence**

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

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Question No. प्रश्न संख्या

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101

- Judiciary is protector of constitution and upholds its values. Hence accountability is an imperative for judiciary.

Need for enacting a law for judicial accountability

(1) To reduce pendency & delay

(a) 3.6 crore + cases pending in Indian Judiciary, also causes delay in disposal (NJDG)

(b) Law can make judiciary accountable to time bound resolution

(2) Transparency in appointment

(a) current collegium system is termed as opaque, promoting favoritism and nepotism

(3) Accountability in conduct

(a) Instances of judges being judges in own case (eg) several allegations against CJI

(4) Working days (a) SC works for 193 days only leading to delays

(5) Judicial overreach (a) NJAC case, Highway liquor ban issue highlight overstepping

However a law may not be panacea

(1) Hindering independence (a) May disturb separation of Power, as legislature will step into Judicial domain

(2) Existing mechanisms are good (a) E-courts, live-streaming, promote accountability

(b) Mis-declaration of assets

(c) Review petition

(d) Memorandum of procedure

Thus judiciary needs some measures to promote accountability. However enacting a law should be done only after extensive consultations.

102

- Fundamental Rights (FR) promote political and civil democracy, whereas DPSPs promote socio-economic democracy in India. A balance between two is necessary.

Reconciliation: a tough task

1. Shankari Prasad Case 1951
   - (a) Highlighted that Parliament can amend constitution via Art 368
   - (b) Thus FR (Part III) given importance over DPSP (Part IV)

2. Golaknath Case 1967
   - (a) SC gave primary to FR, as it restricted land acquisition for DPSP

3. Kesvananda Bharati Case 1973
   - (a) Held Parliament's amending power is supreme
   - (b) Thus DPSP got prominence, while adhering to basic structure

(4) Minerva Mills Case 1980 — (a) SC declared that Constitution is founded on bedrock of balance between DPSP and FR

(5) Coelho Case — (a) balance was strengthened as IXth Schedule was made amenable to Judicial review

However reconcilliation has been attempted

(1) Art 21A — (a) Gave primacy to DPSP Art 45 for child education

(2) NREGA Act gave primacy to Art 21 as well as Art 39, 41 and 43

(3) Cooperative Society formation under Art 19 and Art 43B has been promoted.

Apart from above examples, PMJAY, National Food Security Act etc. show that while reconcilliation is tricky, it has been forcefully attempted.

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Q3

Prime minister's office (PMO) is of immense importance in political, economic and security land scape of India

PMO : Functions performed

1. **Security**
   - Supervises National security Advisor (NSA)
   - Controls nuclear weapons along with Cabinet Committee
2. **Space**
   - Controls ISRO's functioning along with Dept of space
3. **Atomic energy**
   - responsible for supervising Dept of Atomic energy
4. **Economic**
   - PMO advises PM EAC Economic Advisory council
5. **Scientific**
   - PMO Coordinates with PM STAIC (Scientific advisory) spearheading innovation in India

(6) Political (a) Coordinates with various ministries via Principal secretary to PM

(7) Geopolitical (a) Has a Hotline communication with other heads of States and MEA

Thus shaping policymaking via above

- Coordination amongst stakeholders
- Controlling security, Economy architecture
- Inputs in scientific, economic policy
- Foreign Policy

Therefore PMO has emerged as a pivotal organization.

Since it is an extra constitutional and extra legal body, it should adhere to highest standards of ethics to uphold interests of India

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Q4

- Sec 124A (Sedition) is a British Era relic, meant to curb activities against state. Its relevance today is a debated topic.

Striking balance : civil liberties & Human rights

① Civil Liberties
- → Sedition is non-compoundable, cognizable offence
  - → Thus hinders → Free speech (Art 19)
- → may cause death penalty (violation of Art 21)
- → May cause detention and denial of bail (Art 20 & 21 in jeopardy)

② Human rights
- ⓐ Sedition is necessary to curb
  - → terrorism
  - → crimes against state (eg. Naxalism)
  - → Inciting mutiny violence
- ⓑ All above crimes affect human rights (eg. Terrorism in Kashmir)

and exodus of Kashmiri Pandit

eg LWE impacting human rights of tribals and Policemen → mass executions

However maintaining Sovereignty & integrity is important

(a) Hostile neighbours
(a) China, Pakistan are interested in creating havoc, via antinational groups in India

(b) Internal security
(a) LWE, Hate crimes are rampant
eg recent case in Punjab
eg Khalistan

(c) Cross border crimes
(a) At Bangladesh, Pakistan, Myanmar border have linkage with terror groups.

Thus though sedition is necessary, as suggested by Law Commission and Supreme Court its use can be prudent.

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Q5

- citizen participation is recipe to success for any governance setup (2nd ARC). And egovernance is not an exception.

citizen participation in egovernance

1. Needed in rural India
   - (a) High level of digital divide, illiteracy
   - low awareness regarding rights
   - low awareness regarding public service delivery standards

2. citizen participation Advantages
   - (a) Proper design of services (eg) Local language used in CSC due to citizen inputs
   - (b) Aadhar enrolment is necessary to make JAM trinity and DBT a success

(3) making governance accountable

(e) citizens can use CPGRAMS, online RTI to make administration accountable

(4) Providing feedback

(e) citizen participation can propagate feedback on → efficacy of telemedicine, e-learning, e-POS (Fair Price Shops) etc initiatives

(5) Empowering people

(e) E-gram swaraj, PRIAS.jf etc schemes hinge on participation to make Panchayati Raj a success

Way forward

only 25% households in rural India have access to broadband and 4% own a laptop (NSSO). Hence digital divide needs to be bridge.

Therefore e-governance via citizen participation can be a pioneer of good governance in India.

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Q 6

Aspirational Districts Program (ADP) is an example of cooperative and competitive federalism aimed at transforming low & backward districts in India

objectives of ADP since inception

① goals
- → Economic growth
- → water & sanitation improvement
- → Education
- → Financial inclusion
- → Healthcare support
- → Agriculture development

② via – Collaboration ③ convergence ④ Competition amongst districts

Success of ADP

① Monitoring
- ⓐ created a mission mode culture
- ⓑ Brought a dashboard to monitor

② Three tier structure
- ⓐ Brought centre - state -

various ministries and districts on single platform

(3) outcomes visible
(a) child sex ratio improved to 939 (NFHS 5)
(b) IMR declined to 35/1000
(c) MMR declined to 97/1 Lac
(d) Success of NREGA, PMJAY, SBM, PMUY upto certain level

Shortcomings of ADP

(1) larger number of districts lagging on goals (eg) in Marathwada, MP, Bundelkhand
(2) Lack of coordination on ground between ministries
(3) lack of legal mandate to ADP

ADP is a pioneering step aimed at attaining SDGs and improving human development. Hence it should be paid necessary attention.

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07

NGO perform a necessary function of creating awareness, public service delivery as well as creating conducive conditions for good governance. Technology has become an enabler for this.

Technology : role for NGOs

1. **Monitoring status**
   - Pratham uses data analytics to gauge national level foundational literacy
2. **Healthcare**
   - Narayan Seva Sansthan use robotic surgery to help Divyangs
3. **Mohay Patra**
   - uses cold chain and logistics technology (RFID) to deliver food for mid-day-meal scheme

(4) Paani foundation

(4) uses GIS map to help water conservation in rural India

(5) Political NGOs

(a) ADR, PUCL, PRS relies on big data to analyze legislative and administrative impact of schemes

(6) Environmental NGOs

(a) CSE uses satellite data maps to analyze forest status

(7) online RTIs

(a) NGOs uses web platform to enhance reach of RTI application filling

Concerns → misuse of funds by NGOs (FCRA issue)
→ misuse of social media (eg Amesty, Greenpeace

Hence NGOs are meant to perform a pious function in governance. Thus technology should be used for common good.

108

- NEP 2020 envisages greater role of foreign educational institutions (FEIs) in India for furthering technical and higher education in ~~the~~ India.

Advantages of FEIs in India

1. **Access to**
   - → foreign course content (eg) in quantum science
   - → foreign faculties (eg) L. Rajan
   - Coming back to India
   - Foreign placements

2. **More options in India**
   - (a) As admissions in AIIMS, IIMs, IITs are getting difficult

3. **Prevent brain drain**
   - (a) of students seeking education abroad

4. **Spurring**
   - → Competition in innovation
   - → Research, Publication
   - Patents in India

Issues associated with FEI

1. Affordability
   a. of fees eg Harvard is costlier than IIT
2. Access
   a. mode of entry is contentious issue i.e via JEE or foreign exam
3. Content design
   a. should be in-line with Indian need eg rural innovation to reduce malnutrition
   b. should not forward soft power of foreign state eg Ching doing in Sweden

Way forward

- tight FCRA norms to prevent misuse of funds
- UGC norms in accordance with NEP for course design
- Nudge to reinvest profit in India

FEI can help democratize education in India, thus it needs to be backed by robust policy mechanism.

Q9

India and Latin America are separated by geography. Yet geopolitical imperatives brings them together.

Flourishing relationship: India & Latin America

1. **Trade**
   (a) India dealing with MERCOSUR, CELAC to conclude a free trade agreement
   (b) Current trade: $60 Bn + (DGFT data)
2. **Energy**
   (a) oil from Venezuela, Guyana, Suriname
   (b) Lithium from triangle of Bolivia, Chile and Argentina
3. **Investments**
   (a) Mahindra, Airtel, TCS, ONGC are investing
4. **Geopolitical**
   (a) BRICS and coordination with Brazil
   (b) G-20 Coordination with

Argentina, Brazil, Mexico etc

(1) Support at G-4 for UNSC reform

(2) visits by Brazilian PM Bolsonaro for republic day in India

The relationship as element of Indias Foreign Policy

(1) Strategic autonomy
(a) India following multialignment policy to deal with multiple countries
(b) Aids in India's global power status

(2) other areas → aids in
→ countering China there
→ energy
→ economic growth
→ countering terror at UNSC (eg. Brazil's support)

Latin America is a crucial region which needs attention if India needs to build upon its status as emerging global power.

Q 10

- Debt trap diplomacy refers to offering of debt for costly unsustainable projects to smaller nations, thereby trapping them in a vicious cycle. China follows it.

Debt traps around India (x)

Debt trap in India's neighbourhood

(1) Pakistan
- CPEC project has debt of $30 Bn +
- Gwadar Port has been leased to China (Naval Presence)
- China owns key power, oil & gas projects Highways in Pakistan
- Project passes through POK inversion on India's territorial integrity

(2) Sri Lanka
(a) most of debt (30%) is owed to China
(b) Hambantota Port leased to

china for 99 years

(c) Huan Wang Spy vessel docked in Sri Lanka, violating Colombo accord, and India's maritime security

(3) Myanmar (a) CMEC project, Coco Islands impact security for India, esp in North East

(4) Bangladesh (a) High speed Rail project is proposed
(b) Increases economic and military reliance on china

(5) Maldives (a) critical Islands leased to china

Way forward

To counter debt-trap and String of Pearls Strategy of china, India should focus on neighbourhood first Policy as well as enhance its 'diamond ~~necklace~~ necklace' strategy to encircle china.

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Q11

- Indian Constitution has been a melting pot of ideas derived from various Constitutions. Yet it preserves its own identity and also furthers social justice, pluralism and equality in India.

Indian Constitution as an amalgamation

- Fundamental Rights from US Constitution
- DPSPs from Irish Constitution
- Fundamental duties from USSR Constitution
- Equality from US & British Constitution
- Social Justice from Gandhian Principles, Ambedkar's ideas and Nehru report
- Liberty-Equality Fraternity from French Constitution and Dr. Ambedkar's ideas
- Federalism similar to US Constitution, but derived from Gandhian and Ashoka's Principles

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Indian Constitution combining key aspects

1. Social justice
   - (a) Preamble declares India a sovereign - socialist - democratic republic
   - (b) DPSPs derived from Irish Constitution and GoI 1935 Act
   - (c) Affirmative Action (Art 15(4) etc) based on Dr. Ambedkar's ideas

   → from NREGA, to removal of untouchability to NFSA to PMAY (Housing), Indian Constitution has been trying for social justice

2. Pluralism
   - (a) US - France follows strict separation between State and religion (negative secularism)
   - (b) often results in tensions
     - eg Charlie Hebdo
   - (c) Indian Constitution (Art-25-30) follows on Positive aspect
     - → Provides equal respect to all

(Sarva Dharma Sambhav)

(d) Art 29 & 30 further multiculturalism and provides minority rights.

(3) Equality (a) Indian constitution provides substantive equality (Art 14 – 18)

UK Equality before law + US Equal protection by Law ⟹ India amalgamates both concepts in Art 14

(b) India has also been a pioneer in affirmative action for socially backward (Art 15(4) and 15(5)) and economically backward (15(6)) classes

Thus Indian constitution tried to pick the best from all constitutions and mould it to Indian context

In words of Dr. Ambedkar, it will depend on constitution as well as office holders to make best out of this pioneering Constitution.

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Q12

The subjugation of women in India, and domestic violence often in sexual context has ignited the debate of marital rape and its criminal implications.

Recent developments : Marital rape

① Justice verma Committee report
→ Advocates criminalizing marital rape

② Inadequacy of IPC Sec 375 & 376
(a) IPC does not recognise rape with wife
(b) SC criminalizes only sex with minor wife

③ Recent incidents
(a) NFHS-5 highlighted : 30% women face domestic violence, often resulting in rape
(b) NGOs, various women commissions advocating

criminalizing marital rape

Implications of legal protection for victims

(1) Positive implications

(a) upholding Art. 21 - Right to dignity and life for women

(b) providing sexual and reproductive rights SDG - 5

(c) Preventing domestic violence

(d) A stepping stone towards empowering women in personal, family and social sphere

(2) challenges it will create

(a) Institution of marriage
→ by false complaints
→ Burden of proof will be on husband
→ will increase family break-downs

(b) Existing low conviction
→ Dowry Act 61 and Domestic violence Act have low conviction rates

→ SC highlighted misuse in these acts.

(c) Legal challenges

(a) In proving event happening privately in bedroom

(b) impact on privacy (Art-21)

Way forward

→ Focusing on family courts or counsellors to resolve disputes

→ Strengthening State and National Women Commissions (NCW) to hear and dispose cases

→ Furthering Standup India, NRLM to economically empower women

Marital rape is a family and social evil, hence before searching for legal remedies, first social and economic empowerment measures should be tried.

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Q13

- Indian federalism is basic structure of Constitution (Bommai case 94). India is a union of states (Art 1) and thus often regarded as a quasi-federal structure owing to centralizing tendencies.

Indian model of federalism : centralised

(1) Union of destructible states

→ Art 1 - union

→ Art 3 - creation and reorganization of states by centre

(2) 7th Schedule → List I Central has 100 subjects

→ List II - 52 subjects → states'

→ List III Concurrent has 47 subjects

→ Residuary law making power with parliament.

(3) Emergency provisions

(a) Art 356 : Presidents rule in state, can be imposed.

(b) Art 352 : national emergency

(i) Art 360 : financial emergency

(d) all these conditions grant greater power to centre in Executive and legislative sphere

(4) fiscal federalism

(a) Art 280 - Finance Commissions term of reference, and appointment by centre

(b) Art-239 asks States to seek union's permissions for borrowing

(5) other tendencies → office of governor → appointment by union (President)

→ Single citizenship

→ Integrated judiciary

→ Power of Rajyasabha to legislate on State subject (Art 249 & 252)

Above tendencies attract criticism, yet there are zones of autonomy for States

(1) Legislation (a) Art 245 & 246 delineate legislative power of States

(2) Powers (a) Land, Police, Health etc critical subjects are with States

(3) Local bodies (a) As per 73rd Amendment - (PRIs) and 74th Amendment - (ULBs), States have power to devolve funds and power to these bodies

(3) Reduction in CSS (a) Shivraj Chauhan committee's recommendation led to reduction in CSS (Sponsored scheme)
→ gave financial autonomy to State
→ 25% untied funds

Way forward
(1) Sarkaria & Punchhi Commissions recommendations to sparingly use Art 356 should be followed
(2) Subjects in Concurrent List can be legislated with State's Concurrence
(3) As per Raj mannar Committee, States should get a say in TOR of finance Commission
Above steps will make Indian federalism a truly Cooperative Federalism.

Q14

- Election commission (Art 324) is bulwark of Indian electoral democracy, Hence its sanctity is of utmost importance. Thus the issue of appointments of ECs and CECs is crucial.

Recent judgement
- → Anoop Baranwal case before Supreme Court
- → SC ruled that a high level Committee should appoint ECs and CEC
- → Composition of Committee
  - PM
  - Chief Justice
  - Leader of opposition in Lok Sabha

Fundamentally changed appointment process

① Earlier Scouting
- ④ by a Search Committee
- ⑤ Appointment by President as

per recommendation under warrant and seal

(c) But Executive (PM and Council of ministers had greater say)

(2) Now → Brings diverse opinions (from CJI and LOP also)
→ reduces scope for arbitrariness and monopoly of Executive

Far reaching impact

(1) Makes ECI truly independent
(a) by bringing all wings of government in appointment

(2) makes accountable to constitution than to executive

(3) May reduce biasedness and partisanship towards ruling party during elections
(eg) Laxity on MCC violations from ruling party

(4) Paves way for providing security of tenure to other ECs (Election Commissioners)

→ earlier they could be removed by CECs recommendation

(5) ECs will work towards free and fair election than seeking post retirement favours

Way forward

(1) creating a memorandum of procedure for search & selection and appointment.

(2) creating mechanism to avoid delay in appointments if PM, CJI or LoP is not available

(3) Broader electoral reforms (eg giving it power to deregister erring parties.

The recent judgement needs to be followed in letter and spirit to uphold integrity of election process in India.

Q15

- Civil services has been called steel frame of India, since independence. However post-LPG era has thrown newer challenges, requiring them to be agile in adapting to situation.

Integration with global trends

→ Liberalization of private sector
(eg) SEZs, Make in India, Ease of doing business.

→ Privatization of non-strategic PSUs and loss making entities

→ globalization: seeking FDI, technology, human resources from the globe. ⇒ opening up of economy
(eg) ending license, quota raj

Diversified challenges for civil services

(1) To improve ease of doing business

(4) reduce red tapism in land acquisition process, labour laws

(b) reduce border compliance time for trade (100 hours for imports and exports - India @ 75 report)

(c) Provide alternative dispute resolution
- Ease of compliance eg GSTIN
- cases of opening & closing business

(2) Deal with newer technology
- AI, ML, Quantum technology
- Fintech (crypto)
- furthering semiconductor industry, make in India, PLI scheme etc
- tackling cyber crimes

Require holistic reforms for service delivery

(1) in attitude
(a) from rules to role & value based
(b) from top down to bottom up thinker
(c) from doer to innovator
(d) from generalist to being a specialist expert

(2) in skills (a) learning artificial intelligence, data analytics (eg) use in Aspi District Program to analyze malnutrition

(b) furthering e-governance (eg) eGram, Pragati Portal, e-gramswaraj etc.

(3) Improving public service delivery

→ via GeoMnregs, Awaas soft (for PMAY)

MCA 21 for Corporates etc.

→ troubleshooting above portals

(4) Inculcating best practices from globe

(5) Thus reforms required in

→ Being specialists (2nd ARC)

→ skills based posting (Hota Committee)

→ use of egovernance (2nd ARC)

→ use of rewards for innovation (Baswan Committee)

→ furthering training via mission karmayogi IGOT

Thus civil servants need to keep pace with changing world to better deliver the services.

Q16

- Economic Survey 2019 highlighted the importance of data in governance and advocated use of open data to enhance research and public service delivery.

Role open data can play in e-governance

1. **Policymaking**
   - (a) eg. Crop and soil data can help design packages for Fasal Bima Yojana
   - (b) SECC data can help further digital India in backward districts.

2. **Transparency**
   - (a) Dashboards can help get status update for internet penetration under Bharatnet
   - (b) Data on malnutrition can help Poshan Portal target intervention

(c) CSC can use JAM trinity data to suggest tailor made schemes (eg) Beathatty Gram Panchayat doing.

(3) Course Correction (a) PRIA-Soft data can help Panchayat bodies spend on areas needing intervention
(eg) spending more on millets in mid-day meals in Tribal area.

(4) other uses of data
→ Identifying beneficiaries
→ reducing inclusion, exclusion errors
→ Powering AEPS, DBT, Aadhar Authentication
→ Promoting KYC and financial inclusion for NRLM, Standup India etc.

Challenges with quality and reliability

(1) challenges in Collection (a) Digital divide, illiteracy and language barriers makes Collection difficult

(2) maintenance (a) lack of sensors in India and security is an issue

(3) Reading errors

(e.g.) Eco survey highlights that data should be in machine learning readable format to generate value

(4) Access issues

(e.g.) Access to Data.gov.in is lesser in rural area

(5) Maintenance & update

(e.g.) Data needs to be updated. But Healthcare data, Motor vehicle data is often outdated on government portals

(6) Other issues

→ Privacy of data

→ cyber security

→ Infrastructure, skills of manpower

→ Digital literacy (e.g.) via PM GDISHA

Way forward

a Coordination between MoSPI, Niti Aayog, Digital India can be created to create actionable data sets.

This can help to leverage data for common good and for attaining socio-economic development.

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Q17

Maternal nutrition and malnutrition amongst infants and children have a nexus between them. Hence, steps are needed to focus on maternal nutrition to reduce malnutrition.

Current Status: Calling for action

1. 33% children stunted (NFHS-5)
2. IMR - 37 children / 1000 (NFHS-5)
3. MMR - 97 / 1 Lac births (NFHS-5) (maternal mortality)
4. 50% of girls and women in reproductive age are anaemic (NFHS-5)

Thus focusing on maternal nutrition

1. Nexus of maternal nutrition with zero food children (malnutrition)
   → 4. Ante-natal issues create nutrition, low birth ~~wt~~ weight in infants.

(b) children are born with deficiencies as rickets, Sowry etc.

(c) Post natal issues, lack of best breast feeding impacts first 1000 days of infants.

② Neglect on maternal Health also creates neglect in

→ (a) immunization for infants

→ (b) wash practices for infants (water, hygiene issues)

→ (c) creates issue in food intake choices post breast feeding.

Therefore below steps can be taken: maternal nutrition

(1) Ante-natal care

(a) via Matru vandan Yojana

(b) providing cash support - nutritional support via ICDS

(eg) milk, millets, Iron supplement

(2) NFSA Components

(a) millets, Pulses fruits can be introduced under PDS for pregnant and lactating mothers

(3) Best Practices

(a) Bongaigaon provides additional nutritional supplements to pregnant women

(4) Convergence

(a) Poshan Abhiyan, matru vandan Yojany, Suraksit matritva Abhiyan, mission Indradhanush can be linked to monitor shared goals with respect to enhance nutritional support

(5) Awareness via

→ ASHA
→ ANM
→ Anganwadi workers

Thus maternal nutrition can help attain health status for newborns and also help attain SDG 2 (Hunger elimination), SDG 3 (Health) and SDG 5 (women empowerment).

Q18

- Rare diseases are genetic or cell based disorders impacting small chunk of population in any country. Owing to rare or low occurence, they are termed as rare diseases or orphan diseases

Examples of rare diseases
- → Sickle cell
- → Leukemia
- → Stem cell disorders
- → Auto immune diseases

Concerns related to rare diseases | Public Health

(1) low research in pharma
(a) owing to low volumes and profits, global MNCs are reluctant to invest in R&D

(2) government neglect
(a) As it impacts very small population chunk

(b) Also difficult to spot

(3) Lack of monitoring
(a) Absence of active surveillance mechanisms, reporting tools

(4) low awareness
(a) regarding disease occurrence, especially amongst Tribals, rural-remote areas (e) North East

(5) High Cost
(a) of implants, devices, medicines due to low economies of scale

(6) Lack of Healthcare
(a) most PHCs, CHCs, Private Hospitals, Insurance Programs are focused on infectious or non-communicable diseases

Hence
rare diseases
→ are also called as ORPHAN diseases
→ As a result impacts nutrition, quality of life and life expectancy

→ This calls for actions in public health policy and implementation space.

Resolved by following steps

① Rashtriya Arogya Nidhi ④ Can be used to fund treatment.

② Import support ⑨ Reduction / Abolition of duties on import of medicines (as done)

③ Bring under PMJAY to provide insurance support

④ PMBJP (Jan Aushadhi Pariyojana) can focus on R&D for providing generic medicine to reduce suffering

⑤ National Laboratories (announced as per Atmanirbhar Bharat Plan) can be leveraged for surveillance.

Every human life is equally important. Hence rare diseases should also get equal policy attention for alleviating pain and sufferings.

Question No.
प्रश्न संख्या

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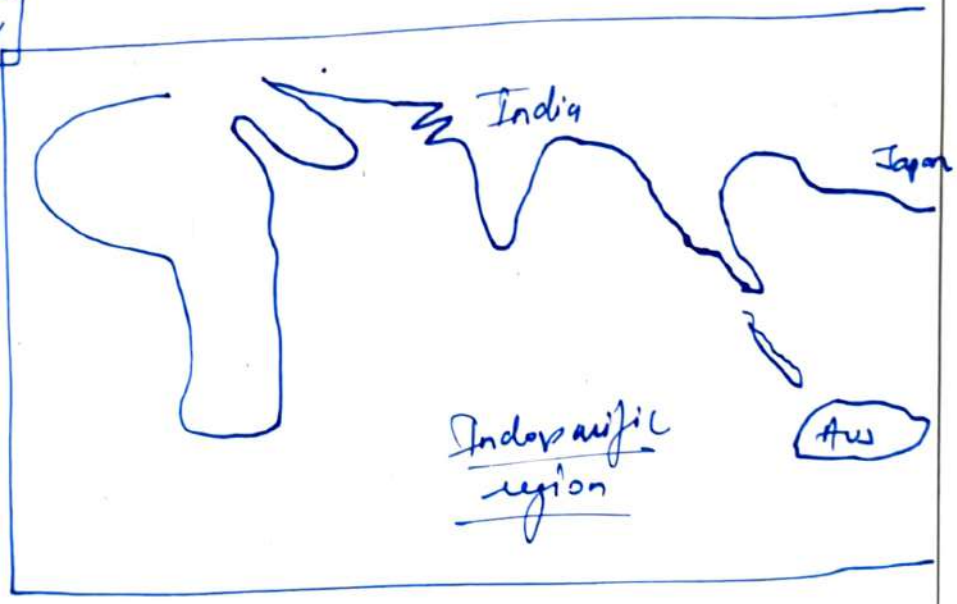
Q 19

- Indopacific region is a geopolitical construct depicting the changing global order and national interests of various nations in vicinity. Hence those need to be analyzed for effective collaborations.

Composition

- From western shore of USA to eastern shores of Africa



- Confluence of two oceans
  - → Indian
  - → Pacific
- key stakeholders
  - → USA
  - → JAPAN
  - → INDIA
  - → AUSTRALIA
  - ⇒ QUAD group
  - → CHINA
  - → ASEAN nations

Question No.
प्रश्न संख्या

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underlining intentions of Countries

1. China
   a. To assert hegemony in south china sea, Indian and Pacific ocean
   b. Further claims on Taiwan, south china sea (9-dash line)
   c. Declare a china centric order
   d. Control freedom of navigation and sea trade

2. India
   a. Protect freedom of navigation and sea line of communications
   b. Prevent militarization of Indopacific
   c. Promote free trade, supply chains
   d. uphold sovereignty of smaller nations
   e. FIPIC / small Pacific Islands
   c. Promote self as emerging global power
   f. Promote Act East Policy, IORA, BIMSTEC, IONS, IPOI etc initiatives

3. USA
   a. Protect Hegemony and super-power status
   b. Protect Japan, south korea from china (Defence treaty)

(c) Promote navigation and free trade

(4) Japan (a) Protect sovereignty and territorial integrity (eg. Senkaku Islands from China)

(5) Australia (a) Defence and trade protection
(b) Signing of AUKUS

(6) ASEAN to protect own centrality.

This aiding effective collaborations

(1) QUAD as a deterrent for china

(2) AUKUS by USA + Australia + UK to further nuclear submarines

(3) RCEP : by Japan, India, Australia to bolster supply chain and economies

(4) IORA, IONS, IFC-IOR by India to safeguard interests in Indian ocean

Indian ocean and Pacific ocean is witnessing geopolitical shift with formation of Indopacific construct. All states thus need to follow rules based international order in this region.

Question No.
प्रश्न संख्या

UPSC

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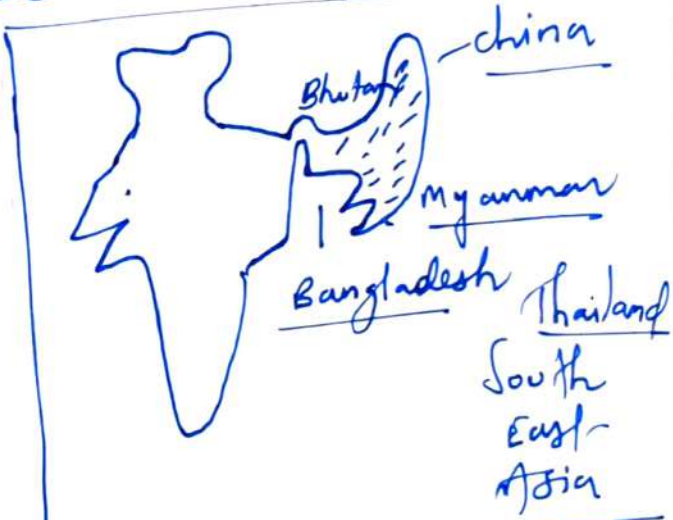
Q20

North East region of India is a gateway to Bangladesh as well as to South East Asia. It also holds key position in Act East Policy - Owing to this importance, underlying challenges need to be addressed.



North East India

Underlying challenges

Internal

① Lower economic growth
→ 8% area of country, but 2% of GDP (India @75 report)

② Ethnic tensions
(a) Between communities in Manipur, Bw issues etc
(b) In Assam (eg Nelli massacre)

③ Separatist tendencies
(a) by Bodo groups in Assam
(b) by NSCN (IM & K) in Nagaland
(c) by PLA Manipur

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(d) By Garo Army in Meghalaya

(e) By Mizo National front in Mizoram

(3) Tribal rights
(a) frequent demands for ILPs, 6th Schedule (Art 244) rights to restrict foreigners

(5) CAA NRC
(a) Assam Accord (1985) calling for CAA NRC to oust illegal refugees

External challenges

(1) Transnational crimes
→ Human, drug, cattle, arms smuggling → via Drug triangle of Thailand, Laos, Myanmar
→ Counterfeit Currency
→ Ransom seeking, kidnapping (eg in Nagaland)

(2) Insurgent groups
(a) Huji, Jamat, ISIS from Bangladesh Border
(b) Kuki - Chin, Zomi militia from Myanmar
(c) ULFA getting refuge in Bangladesh etc.

(3) Role of China & Pakistan (a) funding insurgents and supplying arms to them

(4) Porous border
- with Bangladesh & Myanmar
- open border regime with Myanmar makes infiltration easy (eg Rohingya issue)

Addressing issues to make it connecting space

(1) Security coordination with BIMSTEC, IORA, MGC (Mekong Ganga) Nations to counter insurgency and drugs / crime
(eg) Op. Sunrise with Myanmar

(2) Internal security measures (eg) Op. Samadhan to build peace

(3) Negotiations with internal groups to serve peaceful settlement (eg) Bru formula to be applied to resolve Manipur issue

(4) Collaborate with Japan to bring development projects in North East & Bangladesh (eg AAGC, Matarbari Port etc)
Also connectivity projects (Asian Highway, Kaladan Project) can be fast tracked for development in North East.

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GENERAL STUDIES (TEST CODE : 2089)

Name of Candidate	Sameer thode		
Medium Eng./Hindi	English	Registration Number	1531081
Center	online	Date	2-Sep 23

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
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6	10	
7	10	
8	10	
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11	15	
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18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **HINDI & ENGLISH.**
   इसमें बीस प्रश्न हैं **हिन्दी और अंग्रेजी** में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

Is student recommended for One-to-One mentoring?

Recommended	Strongly Recommended

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

Don't write anything this margin (इस भाग में कुछ ना लिखें)

1. बौद्ध आस्था का एक महत्वपूर्ण हिस्सा होने के कारण हाथियों को बौद्ध मूर्तिकल में भी व्यापक रूप से दर्शाया गया है। चर्चा कीजिए।

With the elephant being a vital part of the Buddhist faith, it was widely represented in its sculptures as well. Discuss. (Answer in 150 words) 10

Elephant has a critical role in Budhist faith and bodhisattva's ideas of world, hence it is represented widely.

Elephant as a vital part of Budhist faith

Depiction
- → Represents strength, courage, calmness, righteousness
- → Hence associated with Bodhisattva's incarnation

Elephant represented in sculptures

(1) In stupas
- (a) on medhi, Toran, walls of stupas
  - (eg) Sarnath, Sanchi, Chaithan-di stupas

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(2) On pillars (a) Ashoka's Sarnath pillar

(3) Cave architecture (a) Cave's such as Karle, Elephanta, Barabar, Ajanta etc depict elephant

(4) Standalone Sculptures (a) Gandhara, Amravati, Mathura School of Art represent elephant along with Buddha and other figures

(5) other Sculptures (i) In Buddhist universities (3) In Sculptures of Padmapani, Vajrapani etc.

Therefore elephant has eternal as well as physical significance in Buddhist philosophy, which reflects in sculptures.

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2. भारत के स्वतंत्रता संग्राम को समाज के विभिन्न वर्गों के प्रयासों और बलिदानों के माध्यम से जीता गया था। इस संदर्भ में, राष्ट्रीय स्वतंत्रता संघर्ष में आदिवासी महिलाओं द्वारा किए गए योगदानों की विवेचना कीजिए।

India's war of independence was won by the efforts and sacrifices of different sections of the society. In this context, discuss the contributions made by tribal women in the national freedom struggle. (Answer in 150 words) 10

Indian independence movement was an umbrella movement with contributions from various sections, including tribal women.

Contributions made by tribal women

1. Part of revolts
   a. Actively participated along with men in munda, koy, Bhill, santhal, chuar uprisings
   b. Tribal society being matrilineal also gave them primacy
2. Running Shibirs
   a. During Rampa revolt, they managed organizations
3. During 1857 revolt
   a. Provided shelter to guerillas (eg) Tatya tope

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(4) During non-cooperation movement 1920s — (a) Participated in Chhota-Nagpur region

(5) During civil disobedience movement — (a) Participated in Central Provinces, Chhota Nagpur to defy tenancy and forest-laws

(6) In Manipur — (a) women of Heraka cult especially Rani Gaindinliu resisted British rule and called for reforms.

(7) overall resistance against — (a) money lenders / Dikus (b) forest-laws (eg) 1865, IFA 1927 etc.

Tribal women therefore proved to be a moving force behind resistance against British, thus contributing to overall freedom struggle.

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3. भारतीय स्वतंत्रता संघर्ष के दौरान रवींद्रनाथ टैगोर के राष्ट्रवाद संबंधी दृष्टिकोण में अंतर्निहित प्रमुख सिद्धांतों को वर्णित कीजिए।

Bring out the key principles underlying Rabindranath Tagore's vision of nationalism during the Indian freedom struggle. (Answer in 150 words) 10

Rabindranath Tagore was a nationalist whose vision was evident during 1890s and during swadeshi movement in 1905

Principles underlying Tagore's vision

(1) Concept of Nation
(a) Considered to be divine and motherly
→ Reflected in National Anthem Jana Gana Mana
→ Sung during Congress session and during Anti Partition movement in Bengal

(2) Considered nation to be prosperous
(a) Called Bengal and India to be 'Sonar' golden

(3) was a Patriot
(a) Gave up knighthood in protest against Jallianwala bagh mass care

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(4) Advocated [Swaraj] at - Individual, National and cultural level

(5) Highlighted flaws of British rule
→ in terms of economic drain
→ cultural repression / agents of backwardness
→ Communal divide

(6) [Called for unity] (a) Played key role in organizing mass opinion during Swadeshi movement

[Contemporary relevance of Tagore's vision]
→ Reclaiming cultural glory
→ focusing on unity
→ Making nation prosperous by utilizing resources

Therefore Tagore's vision of nationalism was key driver during British era and also can be considered as a timeless wisdom in modern era as well.

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4. बाह्य दबाव और औपनिवेशिक विरोध के साथ-साथ घरेलू दबाव ने यूरोपीय शक्तियों को उपनिवेशों पर अपना दावा छोड़ने के लिए विवश किया। सविस्तार वर्णन कीजिए।

The combination of internal pulls coupled with external pressure as well as colonial resistance prompted the European powers to relinquish their claim over colonies. Elaborate. (Answer in 150 words) 10

European powers had to relinquish there hold on colonies after post WW II owing to multitude of reasons.

Internal pulls

① Devastation by war (as) London, France etc faced massive destruction

② change of governments → labour government in Britain favoured pullout

③ Humanism & rationalism → some sections of society opposed operat oppression of colonies

④ Fatigue in Army

⑤ Financial drain during war

④ non-cooperation by Bureaucracy

External Pressures

① End of Pax Britannica → in geopolitics

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(2) USA and USSR did not favour Colonialism

(3) UN : called for decolonialization

(4) movement by India, NAM provided further push for decolonialization

(5) Global pressure to let go of medieval mentality (eg) movements in Africa, Malay Peninsula

Colonial resistance

(1) India → Civil Disobedience movement (1930s)

→ Quit India movement (1942)

→ Naval mutiny Azad Hind Force

Sustained pressure

(2) other revolts in → Malay Peninsula
→ Ghana
→ East Africa
→ Latin America
→ Sri Lanka etc

thus it was a concerted effort and result of multiple factors, that European powers backtracked from colonial mentality

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5. भारत में जलीय कृषि को बढ़ावा देने वाले कारकों की पहचान करते हुए, इससे संबंधित समस्याओं पर चर्चा कीजिए।

Identifying the growth drivers of aquaculture in India, discuss the associated issues. (Answer in 150 words) 10

Aquaculture in India refers to cultivation and harvest of fisheries in Inland and Coastal ecosystems. It contributes 1% to India's GVA (Niti India @ 75)

Growth drivers of Aquaculture

1. Policy Initiatives
   (a) Blue Economy, Matsya Sampada Yojana, PLI scheme etc provide inputs to
   Techniques, Vessels, feed, Processing

2. Geography
   (a) 7517 km of Coastline in India

   (b) Also 4% of Area is under wetlands (wetland Atlas)
   (c) Presence of Perennial rivers (eg Himalayan)
   (d) Large lakes — Chilika, Kolleru, Pulicat etc

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(3) Demand due to
→ urbanization (40% population by 2030)
→ Rising per capita income (6% inc in 2023)
→ Corporate culture, nuclear families driving demand for processed food

Associated issues Need

(1) Availability of resources & low yield
→ vessels → Technicians
→ credit → Netting
→ feed, net, navigation, cold storage, processing units

(2) Trade barriers → phytosanitary barriers erected by european nations

(3) Capacity building of fishermen → skilling in catching, processing etc.

(4) Funds dissemination from schemes is slow (eg. Matsya Sampada Yojana)

Therefore, the aquaculture schemes need to be run on mission mode to fulfill objectives as well as to double farmer/fishermen income.

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6. हालांकि महत्वपूर्ण खनिज स्वच्छ ऊर्जा ट्रांजिशन को प्रेरित कर रहे हैं, लेकिन ये ऊर्जा सुरक्षा के संबंध में नई चुनौतियां भी उत्पन्न कर रहे हैं। चर्चा कीजिए।

While critical minerals are driving the clean energy transition, they bring new vulnerabilities with regard to energy security. Discuss. (Answer in 150 words) 10

Critical mineral refer to advanced application minerals which power semiconductor, energy etc. sectors.

Critical minerals powering clean energy

Photovoltaic cells / Lithium batteries

semiconductor chips used in energy grids

Solar panels / wafers

Electric vehicles batteries

Examples: Lithium / Germanium / Gallium / Rare Earths etc.

New vulnerabilities & energy security

(1) Geopolitical tensions (a) Appalling supply (eg) China blocking germanium supply

(b) Restricted supply (eg) NSG restrictions

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(2) Environmental Hazards (a) due to mining of rare earth
↓
Thus countries putting production up

(3) Cost (a) of extraction, processing, transportation makes energy costlier

(4) Availability (a) Import dependent nations as India face shortages
(eg) of Lithium, Cobalt etc

Way forward

→ focusing on geological exploration and mining
→ (eg) Lithium in ~~Jammu~~ Jammu & Kashmir

geopolitical Coalitions (eg) ICET with USA

Research to find alternatives
(eg) Hydrogen fuel cells.

Therefore critical minerals power energy transition, however robust supply chain needs to be established.

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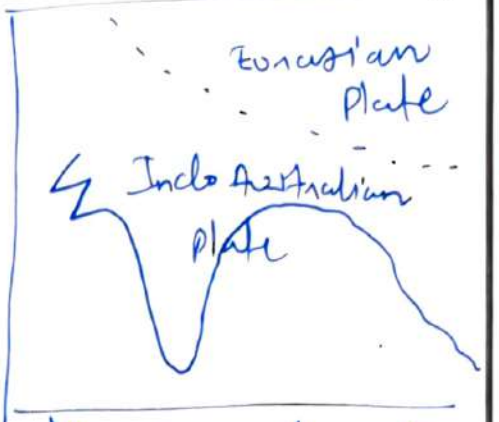
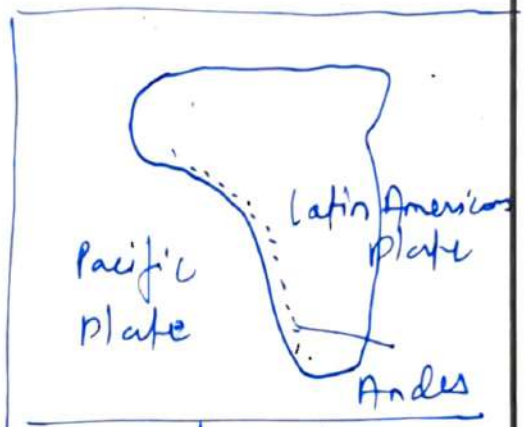
7. प्लेट विवर्तनिकी का सिद्धांत हिमालय और एंडीज पर्वतों के निर्माण में विद्यमान अंतरों को समझाने में किस प्रकार सहायता करता है?

How does the theory of plate tectonics help in explaining the differences in the formation of the Himalayas and Andes mountains? (Answer in 150 words) 10

Theory of plate tectonics focus on convergence or divergence between plates to explain geological formation of continents.



Himalaya formation



Andes formation

Formation of Himalayas

① Convergence of

Indo australian Plate (Continental Andesitic)

Eurasian plate (Continental Andesitic)

② Gives rise to igneous, sedimentary rocks

③ Fold mountains of Himalaya were created due to Anticline and geosyncline

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Formation of Andes

(1) formed due to Convergence of

- Pacific Plate (oceanic) Basaltic
- Continental Latin American plate (Andesitic)

(2) gave rise to volcanic fold mountains around pacific ring of fire

Key differences highlighted

Himalayas	Andes
- Continent -- Continent Collision of Plate	- ocean Continent Collision
- More denser plate subsided	- Ocean Plate subsided
- less volcanoes	- volcanic mountains
- mostly Andesitic, sedimentary	- mostly Basaltic + Andesitic

Thus the plate tectonics theory provides explanation as well as distinguishing features of Himalayas and Andes formation.

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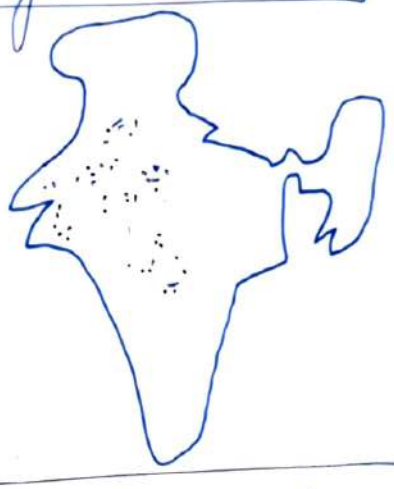
8. एक जल-सुरक्षित भविष्य हेतु भारत में भूजल की स्थिति से संबंधित प्रमुख समस्याओं के लिए व्यापक समाधान की आवश्यकता है। चर्चा कीजिए।
Critical issues surrounding the condition of groundwater in India need overarching solutions for a water-secure future. Discuss. (Answer in 150 words) 10

India utilizes 25% of global groundwater extraction, and thus the condition of groundwater level and quality needs attention

Critical issues surrounding groundwater

① Stress (a) ground water levels going down by 2-3 cm per annum (CGWB)

(b) 61% of lowering is due to over extraction.



Ground water stressed regions

② Contamination → due to overuse and lowering - Arsenic, fluoride etc
→ due to fertilizer leaching
(eg) Nitrogen Pollution

③ Excessive usage by Agriculture (89%) & low efficiency of irrigation.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Over-arching solutions for water security

1. Ground water recharge
   a) Watershed approach as for Atal Bhujal and Jal Shakti Yojana

2. Irrigation efficiency
   a) Focusing on micro irrigation to increase efficiency to go for less usage

3. Crop diversity
   a) Going for millets, pulses etc to move away from water guzzler crops (Ramesh Chand - paper)

4. Urban Harvesting
   a) via sponge city concept
   b) Domestic roof top harvesting
   c) Nagarvan scheme
   d) Wetland rejuvenation

5. Community Participation
   a) To provide social solution
   b) forming water user Association to monitor usage

Apart from above steps, the building code and ground water usage norms for domestic and industrial users needs to be enforced.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

9. 2050 तक भारत की आबादी के एक बड़े हिस्से के शहरों में रहने की उम्मीद है। इस संदर्भ में, देश में समावेशी, लचीले और संधारणीय शहर के निर्माण में शहरी हरित स्थानों की आवश्यकता पर चर्चा कीजिए।

A large proportion of India's population is expected to live in cities by 2050. In this context, discuss the need for urban green spaces in creating inclusive, resilient, and sustainable cities in the country. (Answer in 150 words) 10

urban green spaces in a city refers to parks, urban forestry and wetlands. They are crucial for ecosystem as well economic sustainability.

Role of urban green spaces

1. Inclusive use of spaces
   - (a) Providing access to elderly, children in parks → Recreation, Health care
   - (b) Providing minor forest produce, medicine, horticulture etc for dependent on them

2. Resilient spaces
   - (a) mitigating urban floods
   - (b) stop storm water intrusion and run off
   - (c) mitigate urban heat island effect.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(d) Aid groundwater recharge
(eg) Seminary hills in Nagpur

(e) Aiding biodiversity Conservation

(f) Carbon sequestration and nutrient recycling services

3) Sustainable cities due to greenspaces
(a) mitigating global warming
(b) ensuring water security
(c) mitigating heatwaves, etc due to modernization
(d) Security from disaster (eg) shelter belts in Coastal cities

Way forward → CAMPA funds
→ MISHTI (mangroves)
→ Nagarvan scheme
→ Green India mission

Above schemes can be leveraged to get most benefit out of urban green spaces, and to support growing urbanization.

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10. भारत का पंथनिरपेक्ष दृष्टिकोण 'सैद्धांतिक दूरी' बनाए हुआ है न कि 'समान-दूरी'। टिप्पणी कीजिए।
India's secular approach has remained that of a 'principled distance' and not of 'equi-distance'. Comment. (Answer in 150 words) 10

Indian model of secularism is a positive concept, where state respects all religions equally and yet takes part in reforms. Hence known as a principled distance model

Indian secularism and Comparison

Religions R_1, R_2, R_3 — Indian State Art 25 - 30 Indian model Freedom of Religion, practices, Profession, Institutions etc.	Religions R_1, R_2, R_3 — State Western model eg France, USA

Principled distance model

1. Art 25 2(a) and (b)
→ allows State to take part in reforms
eg Abolition of Sati, Triple Talaq

2. Judicial interventions to provide entry

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to women in → Sabarimala temple
→ Hajiali mosque

(3) Court rulings on (to preserve equal distance) → Recitation of Namaz and Hanuman Chalisa at public places
→ Jallikattu kambala etc.

(4) States' support in equal manner to → Haj Yatra
→ Amarnath Yatra

(5) State treats religious symbols, temples, mosques, Holidays, festivals, cultures with equal respect (eg. Diwali & Eid leave)

Summary ⟹ Hence signifies equal distance yet keeping principled distance for reforming (eg. Debate on UCC issue)

Way forward

In context of our constitutional ethos, state should keep in mind doctrine of essentiality to maintain a distance as well as intervening when required.

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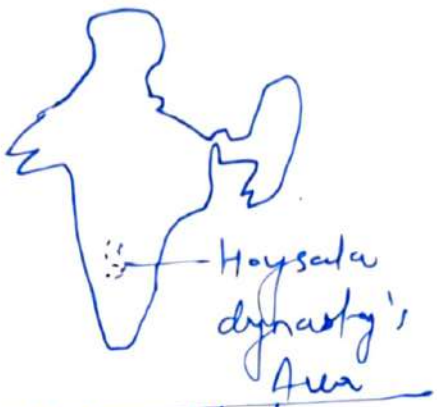
11. भारत में मंदिर स्थापत्य कला का एक प्रमुख चरण 11वीं से 14वीं शताब्दी ई. के होयसल राजवंश से जुड़ा हुआ है। उदाहरण सहित वर्णन कीजिए।

A major phase in temple architecture in India is associated with the Hoysala dynasty from the 11th to 14th centuries A.D. Illustrate with examples. (Answer in 250 words) 15

Hoysala dynasty ruled in Southern India and is credit with taking temple architecture to newer heights.

Temple Architecture of Hoysala dynasty



Capital Halebidu

1. Amalgamation of
→ Pallava style of grand architecture
→ Chola style of stone block construction
→ Vesara style of Chalukya
→ Nagar style of North India
→ Adopted raised platform
→ Panchayat style

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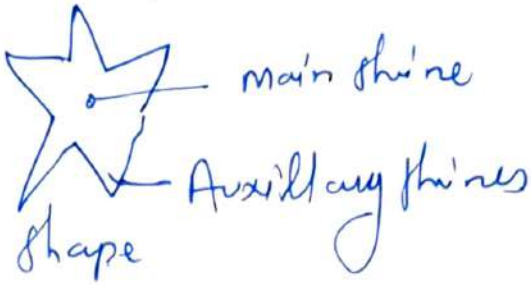
(2) Shape of temples

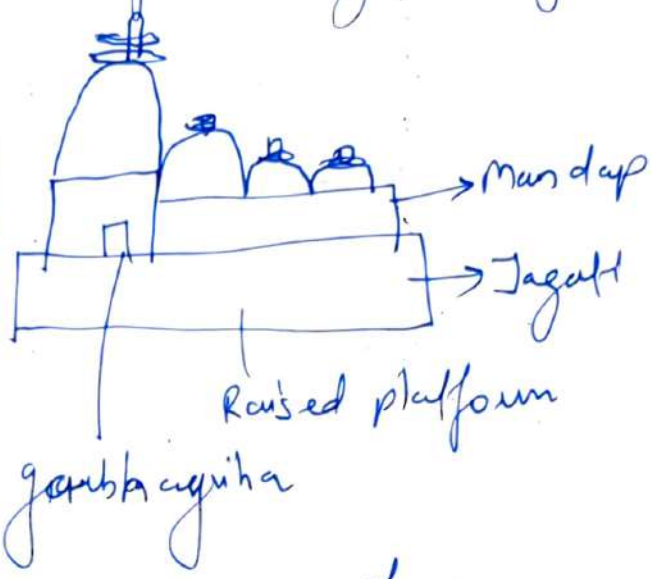
(a)



⇒ Star shape

⇒ modification of Panchayatana

Main shrine



(3) Construction material ⇒ Soft soapstone
⇒ Sandstone

(4) Examples
(a) Hoysaleshwara temple
(b) Shringapura temple
(c) Halebidu temple
(d) Belur temple

(5) Mostly dedicated to Shiva as Hoysalas were Shaivas.

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(6) Carvings on walls (a) showing Yaksha, Yakshini
(b) stories from epics of Ramayana, mahabharata etc.

(7) gradually rising Shikhara and intricate kalash above it.

(8) Dwarpala like carvings near garbhagriha entrance

(9) Influenced ⇒ vijaynagar school of temple Architecture

(10) Even today Hoysala temples are considered in heritage list and are potential candidates for UNESCO's world Heritage site list

Thus Hoysala architecture of temples marked a milestone in temple architecture in south India.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

12. ग्रीक इतिहासकारों के विवरण प्राचीन भारत की सामाजिक और आर्थिक स्थितियों के संबंध में मूल्यवान जानकारी प्रदान करते हैं। चर्चा कीजिए।

Accounts of Greek historians provide valuable insights into the social and economic conditions in ancient India. Discuss. (Answer in 250 words) 15

Greek historians were associated with ancient India owing to various conquests and thus provide a comprehensive account of society and polity.

Sources of Greek Historians

① Alexander's Conquest — ④ Brought many greeks as Armymen and ministers

② Chandragupta Maurya — ④ Brought Megasthenes as a part of matrimonial alliances

③ Indo-greeks — ④ Syet Scythians, Shaka, kushana etc brought many rulers and travellers

④ Gandhara Architecture — ④ Accounts of sculptures and designers, scholars

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Accounts of greek Historians

1. Megasthenes
   - (a) wrote 'Indica'
   - (b) Provided insights into Mauryan kingdom
   - (c) Showed status of → Army, → Pataliputra, → City Council, → Social status and vocations

2. Ptolemy
   - (a) insights about trade and geography

3. Herodotus
   - (a) Provided insights into status of → women, → varna and caste, → Later vedic age trade

4. Menander
   - (a) Wrote about society, Buddhism along with Nagasena
   - (eg) milinda - Pantho

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Key insights from great historians

1. Status of capital cities
2. occupations and social hierarchy prevalent.
3. Insights on numismatics (coinage)
4. Jows on Indian texts (eg Rigveda, Arthashastra
5. Status of women in society
6. war and conquests
7. Status of educational centres (eg Taxila
8. Status of roads, trade etc.
9. Architecture of temples, stupas etc

Thus Greek historians provide a vivid record of ancient India which is useful even today in analyzing India from their view.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

13. भारत के स्वतंत्रता संघर्ष में, विशेष रूप से 20वीं शताब्दी के पूर्वार्द्ध के दौरान प्रवासी भारतीयों द्वारा निभाई गई भूमिका पर चर्चा कीजिए।

Discuss the role played by the Indian diaspora in the freedom struggle of India, especially during the first half of the 20th century. (Answer in 250 words) 15

Indian diaspora played a key role in mobilizing resources, planning for revolt- and creating opinion in favour of India's independence.

Role played by Indian diaspora

① In South Africa (a) Mahatma Gandhi laid foundations for Satyagraha, non-violence to be used later in India (1915 onwards)

(b) Natal Congress, Phoenix House, Tolstoy Farm etc

② In USA (a) Lala Hardayal, Johansingh Bhakana formed Ghadar Party in San-Francisco

(b) Planned for Ghadar uprising in India during WW I

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(c) Sent- Arms to India via ship

(d) spread opinion via 'Ghadr' news-paper

(e) created agitation after Komagata Maru incident-

(3) In Canada ⇒ Ghadr party had roots and activities in vancouver

(4) In Germany ⇒ 'Zimmerman plan' was formed during WW I to wage armed revolt in India

(5) In France (f) Madam Cama led struggle and unfurled Tricolour

(6) In Britain (g) Dadabhai Naoroji lobbied with the British Parliamentarians through 'Indian Association'

(h) Shyamji Verma formed 'India House'

→ Also supported revolutionary activism by → Madanlal Dhingra

→ Veer Savarkar

(i) Sardar Udham Singh killed

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Gurgon wylie to send message against repression

(7) In Germany during WW II
(a) Netaji Bose travelled and sought help from Nazi
(b) Assembled army of Indian soldiers (prisoners of war)

(8) In Japan
(a) Rashbehari Bose, Netaji sought help.

(9) Singapore
(a) Captain Mohan Singh formed Azad Hind Fauj
(b) Later led by Netaji Bose to launch armed attack on British

(10) other activism
(a) In Comintern in Uzbekistan
(b) League of oppressed nations in Belgium.

The Indian diaspora therefore acted as true ambassadors of mother India, even when she was under foreign rule.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

14. पर्यावरण आंदोलनों के उद्भव के लिए निहित कारणों और स्वातंत्र्योत्तर भारत में उनके महत्व पर चर्चा कीजिए।

Discuss the reasons behind the emergence of environmental movements and their significance in post-independent India. (Answer in 250 words) 15

Environmental movements aimed a doing away with wrongs of exploitation of environment and native population. It started during British era and continued even after independence

Reasons behind emergence of environmental movements

(1) Colonial exploitation

(a) British exploited Forest Resources for own benefits

(Eg) wood for Railway sleeper
Coal for Railways
Iron ore for steel.

(b) via Forest Act 1865 and IFA 1927 native population was deprived of minor Forest Right, Land Right etc.

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2) Tribal Revolts (a) gave impetus to environmental movements as they emphasized on → Jal, → Jangal, → Jamin

(eg) Santhal, Koy, munda, Bhil, Rampa etc uprisings

3) Loss of Livelihood ⇒ for tribals

4) Sacred nature of environment. (a) for many communities (eg) Bishnoi in Rajasthan

Significance in Post-independent India

1) led to Protests (a) In a peaceful and Gandhian way → chipko (uttarakhand), → Appiko (karnataka), → Silent valley (kerala) etc

(but led to Naxalism also!)

2) led to policymaking (a) wildlife Protection Act 1972, Social forestry Policy, Forest Conservation Act 1980 were enacted

(5) To protect - Sanctity of forest, land,

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(a) Air Act - 1980, water Act 1974, CPCB Act were passed to curb pollution.

(3) Livelihood
(a) PESA Act, Forest Rights Act 2006 were enacted to provide land, resource rights to tribals

(4) Created Protected Spaces
(a) National Parks
(b) Biosphere reserves
(c) Wildlife Sanctuaries
(d) Conservation reserves
(e) Community reserves
(f) Sacred groves etc.

(5) Community participation
(a) Involved community which was subdued during British era

(6) Constitutional values
(a) Art 21 (Right to clean environment), Art 48A (Protection of environment) were enacted.

Apart from above, environmental movements also led India to participate in global fora as Stockholm Conference, UNFCCC etc.

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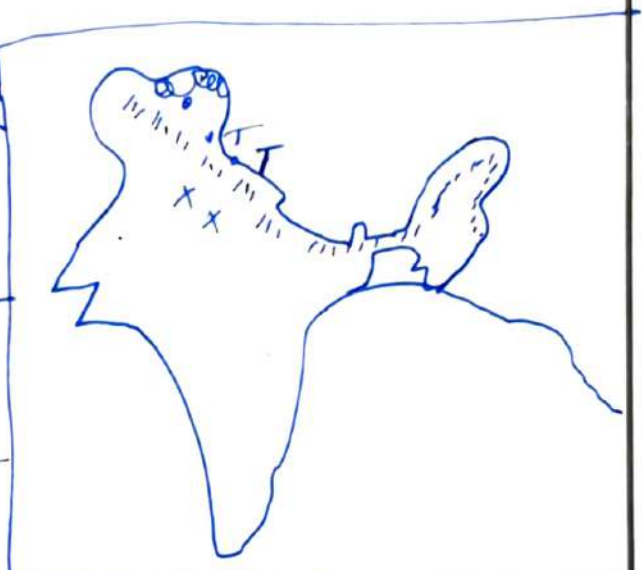
15. भारतीय हिमालयी क्षेत्र (IHR) पर जलवायु परिवर्तन के संभावित प्रभाव का विश्लेषण कीजिए। इसके शमन के लिए क्या कदम उठाए जा सकते हैं?

Analyse the possible impact of climate change on the Indian Himalayan Region (IHR). What steps can be taken to mitigate it? (Answer in 250 words) 15

climate change is turning into a reality and is having a visible impact on Indian Himalayan region (IHR) in multiple ways.

Impact of climate change on IHR



1.//// Indian Himalayan Region

x landslides.
• cloudbursts
T glof (glacial floods) on glacier melting etc

① Melting of glacier
(a) As per DTE report and IPCC AR6 report
(b) resulting in short term summer flooding
(c) long term loss of water capacity

(d) Loss of albedo by ice melting
⟹ will lead to more melting

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(2) GLOF floods → weakening of moraines
(a) Glacial Lake outburst Floods
(b) Kedarnath 2013 is an example
(c) Cause loss of → life
→ property
→ Bio-diversity

(3) Cloudbursts
(a) Rising temperature, moisture and orogeny leads to extreme rain
(eg) Kullu 2023, Leh in 2013 etc.

(4) Landslides
(a) Due to frequent GLOF floods, cloudbursts ⇒ weakening of rock and soil creep
(eg) Shimla in 2023, Joshimath 2022

(5) Permafrost thawing
(a) Results in land subsidence
(b) release of Greenhouse gases
(c) lowering of water table.

(6) Impact on monsoon
(a) due to alteration in Himalayan Pressure belts
(b) Westerlies Jet stream, ITCZ, monsoon winds impacted.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Steps to be taken to mitigate

① Mitigation ① Following COP26 Panchamrit INDCs by India

- 500 GW non-fossil energy (2070)
- 50% Renewable energy (2030)
- Net zero by 2070
- Reducing energy intensity by 45%
- Reducing 1 Bn Tonnes of CO_2

⇒ This will mitigate overall GHG impact on Himalayas.

② Adaptation ① Landslide zonation mapping via ISRO's Atlas

② Cloudburst monitoring via Radars, Seismic sens

③ GLOF monitoring by seismic monitors, MODIS, ENVIS satellite

③ Following Sendai Framework for reducing disaster risk, for Building Back Better, for adopting sustainable infrastructure practices

A multipronged and multilayered approach is needed to deal with risks to IHR region.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

16. हालांकि भूमि धंसाव कई कारणों से हो सकता है, फिर भी इसके संभावित प्रभाव का अनुमान लगाना और प्रतिकूल प्रभाव को कम करने के लिए एक स्थायी योजना को तैयार करना अनिवार्य है। चर्चा कीजिए।

Though land subsidence can happen for a host of reasons, it is imperative to estimate its possible impact and chalk out a sustainable plan to minimise the adverse impact. Discuss. (Answer in 250 words) 15

Land subsidence refers to displacement of land owing to lack of underneath support. It happens owing to multiplicity of causes.

Host of reasons for land subsidence

- → thawing of permafrost
- → land slide due to town construction on overload of debris eg Joshimath 2023
- → soil creep, moisture, cloudbursts etc.
- → Hydrological process of weathering ⇒ erosion ⇒ Transportation
- → Seismic impact due to → Volcanism, → Tectonic Activity, → Hydro power projects, → Infrastructure projects

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Imperative to estimate possible impact

① Impact-estimation for
(a) Preventing loss to life, property, ecology, supply chains etc.
(b) Preparing for mitigation and adaptation
(c) Creating disaster management plans.

② Types of impact-
(a) geological (a) loss of soil and rock structure → damages to houses, infrastructure
(b) Hydrological (a) changes river courses
(b) Causes floods at times
(c) Pollutes river streams
(c) Ecological (a) Damage to flora, fauna etc
(d) Economic (a) Disruption of livelihood, supply chain
(eg) Shimla in 2023
(e) Financial (a) warrants spending from state for Rescue, Rebuilding etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Sustainable plan to minimise subsidence

1. Zonation
   - (a) to identify vulnerable areas
     - (eg) via ISRO's Atlas
   - (b) Retrofitting of houses, infrastructure
   - (c) Occasional relocating of towns
     - → done in Jiberia

2. Preventing Permafrost Thawing
   - (a) Following COP26 Panchamrit commitment to mitigate climate change
   - (b) Geo-engineering and Carbon sequestration / capture solutions
     - (eg) Abandoned mine as CO_2 reserve

3. Sustainable infrastructure development
   - (a) delineating go-no go zones for infra projects as dams, Highways.

4. Disaster Management
   - (a) following Sendai Framework, CDRI norms, PM-10 point plan to reduce risk and enhance resilience.

Land subsidence is a new age problem needing a holistic new-age solution as mentioned above.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

17. आर्थिक विकास के चालक के रूप में आर्कटिक क्षेत्र में स्थित प्राकृतिक संसाधनों की क्षमता पर चर्चा कीजिए। साथ ही, उनके दोहन के पर्यावरणीय और सामाजिक प्रभावों पर भी विचार कीजिए।

Discuss the potential of natural resources in the Arctic region as drivers of economic development, while also considering the environmental and social impacts of their exploitation. (Answer in 250 words) 15

Arctic region is emerged as a new hotspot for economic activity owing to 'Arctic Paradox' i.e impact of climate change on Arctic ecosystem

Potential of Natural Resources

× Arctic region in Northern Hemisphere

① Oil reserves in Arctic ocean, Kara, Lepter Chukchi, Barents sea
→ 13% of global reserve

② Gas reserves in Arctic ocean and Russian + Alaskan Permafrost
→ 30% of global reserve

③ other minerals: Rare Earth (+) Lithium (+) Coal (+) Iron Ore (+) Gold (+) Germanium etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Natural resources as drivers of economic development

(1) Energy (a) Russian, Canadian firms supply Gas & oil in global markets

(Eg) Gazprom, Rosneft.
Nordstream Pipelines.

(Eg) India's ONGC Sakhalin exploration.

(2) Renewable energy → via lithium and rareearth minerals
→ Solar Panels, Batteries, Chips etc

(3) Leading to shipping (a) New routes have been created to exploit minerals
(Eg) Chennai Vladivostok Corridor

(4) Employment- (a) To Russian indigeneous population in Siberia, Sakha area

Environmental impact

(1) Reduction in icecover in arctic → Exploration → loss of albedo → Further warming → melting of glaciers
→ Thawing of Permafrost etc

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(2) leading to → Sea level rise
→ land subsidence in permafrost
→ Release of CO_2 from permafrost
→ Change in → ocean Heat balance
→ ocean currents
→ ocean circulation
→ weather patterns
→ Jetstreams
(eg) Polar vortex weakening
(eg) AMOC (Atlantic meriodonal)

⇒ leading to further global warming
extreme weather events (eg) cold wave in New York.

Social impact → Loss of Habitat for Arctic tribal population
→ loss of Animal husbandry due to loss of Reindeers, seals, Penguins
→ Migration due to climate change
→ Refugee crisis & poverty (New York Convention)

Way forward

Arctic Council needs to take actions as per Arctic treaty and UNFCCC norms to balance growth and sustainability in the region

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18. आधुनिक भारतीय समाज में परिवार के आकार, संरचना और संबंधों की गतिशीलता को आकार देने में वैश्वीकरण के प्रभाव को उजागर कीजिए।

Bring out the impact of globalisation in shaping the dynamics of family size, structure and relationships in the modern Indian society. (Answer in 250 words) 15

Globalization is primarily free flow of ideas, capital, products and people. w/d it has wider impact on Indian family structure as well.

Impact of globalization: family size

Globalization leading to	Impact
→ Economic growth → growth of cities → Corporate culture → International mobility	→ leading to nuclear family. → single working professionals → single mothers (eg) families in New-York, mumbai etc.

Globalization: family structure

① Women empowerment.
(a) Due to job opportunity in ITeS, Gig, startups
(b) women getting job, salaries,

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Economic independence

(c) Traditional patriarchal family is dilute

Traditional	modern
male Head → wife, children	male + female → children

(2) Dilution of Joint Indian Family setup
→ owing to mobility
→ owing to adoption of western values.
(eg) Pub culture, Party culture, modern clothing ⇒ Youth, Young couples seek freedom

Globalization : societal relations

(1) Marriages
(a) leading to exogamy
(b) marriages based on dating, websites
(c) Inter-Caste / Religion / International

(2) New trends
(a) Same-sex marriages
(b) Live-in relations
(c) LGBTQ gaining acceptance.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(3) Newer relations
(a) Based on corporate companionship than caste
(b) based on urban residence than region
(Eg) Colaba residents as own identity over UP, Bihar, Maharashtra etc.
(c) Inter-national societal relation
(Eg) recent case of Pakistani Lady travelling to India.

(4) Negative side → leads to isolation, ghetto culture due to economic inequality
(Eg) High-rise (Eg) Dharavi in mumbai

Despite of Above, Indian-ness is also maintained

- Joint families in tier-2 cities
- Festivals celebrated
- Arranged marriages prevalent
- Parents worshipped

Hence globalization cannot be defined in a monocausal way, as it has multitude of impact on Indian society.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

19. प्रवासन गरिमा, सुरक्षा और बेहतर भविष्य के लिए मानवीय आकांक्षा की अभिव्यक्ति है। इसके आलोक में, भारत में आंतरिक प्रवासन की बहुआयामी प्रकृति का परीक्षण कीजिए और विकास के साथ इसके अंतर्निहित संबंधों पर चर्चा कीजिए।

Migration is an expression of the human aspiration for dignity, safety and a better future. In light of this, examine the multi-dimensional nature of internal migration in India and discuss its inherent relationship with development. (Answer in 250 words) 15

45% of Indians are either internal or external migrants (Census 2011). Hence migration is a result of multiple causes and has multiple relationships in India.

Migration as an expression

① Dignity ⇒ Livelihood
⇒ Income security
⇒ Satisfying human's basic needs

② Safety ⇒ from ethnic, communal conflicts (eg) North East India
⇒ from Natural Disaster (eg) Uttarakhand
⇒ From Terrorism (eg) Kashmir

③ Better Future ⇒ For self & children
⇒ Based on Education, Skilling, Human Capital formation

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Multi dimensional nature of migration in India

① Push Factors

(a) Agri-distress ⇒ 66% are marginal farmers → low incomes
⇒ less social upward mobility

(b) Conflicts ⇒ left wing extremism, insurgency
(eg) migration from Jharkhand to Delhi

(c) Livelihood ⇒ scarce in Rural area, apart from Agriculture

(d) discrimination ⇒ for SC/STs, Communal makes one leave village / town

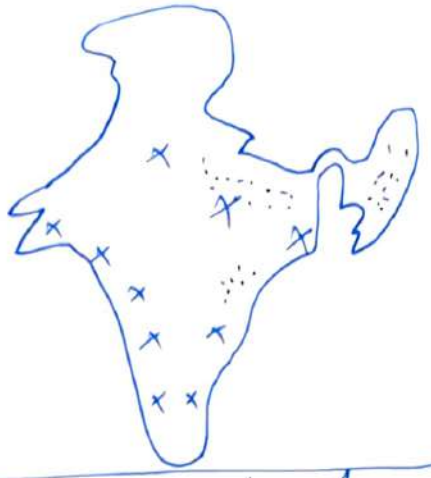
② Pull Factors from metro & tier 2 cities

Economic	Social	Security
→ Jobs in ITeS manufacturing	→ Mobility	⇒ from conflicts
→ Jobs in manufacturing (eg) in Noida, Mumbai	→ less caste hierarchy	→ economic & social security
→ self employment as street vendors	→ Scope for sanskritization	→ Future security for children.
	→ Education and Health care opportunities.	
	→ Earnings, savings, investment	

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Migration and relationship with development

① Underdevelopment
→ pushes migration
→ due to low income, social infrastructure
→ less score on Human Development Index and actual development.



source of migrants : development deficit

× destination : developed parts of country

② Development
→ Pulls migration : for income, health life, social security
eg Mumbai SEZ Street-vendors, Tamil-Nadu Automobile, Noida - Electronics Industry, Lucknow - IT Industry

Way forward
India needs to follow path of Sarvodaya. Hence Atmanirbhar Bharat, PLI Schemes will help create balanced regional growth, leading to moderated migration.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

20. भारत में कार्यस्थल पर लैंगिक समावेशिता समाज में मौजूद सांस्कृतिक और लैंगिक पूर्वाग्रहों की एक श्रृंखला के कारण महिलाओं के विरुद्ध है। चर्चा कीजिए। इस समस्या के समाधान के लिए सामाजिक-कानूनी उपाय भी सुझाइए।

Workplace gender inclusivity in India is skewed against women due to a range of cultural and gender biases existent in the society. Discuss. Also suggest socio-legal measures to address this issue. (Answer in 250 words) 15

Women are termed as powerhouse of talent since ancient India. Yet the gender inclusivity is skewed against women owing to multifaceted issues.

Evidence of skewed workplace inclusivity

1. Glass ceiling
   a. <10% (EO) are women in India (PWC)
2. Gender pay gap
   a. women earn 34% less (WEF)
   b. 80% income to men (ILO).
3. ~~fair~~ upward mobility
   a. women restricted to positions in entry and middle level
   eg managers, software engineers.
4. Harassment
   a. #metoo movement highlighted plight of white collared women
5. Agri workplace
   a. only 14% landholders are women
6. Political
   a. only 14% MPs are women 17th Loksabha

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Cultural biases

- False notion of men superiority
- female considered second sex
- Important financial, strategic tasks have been placed on men since ages (eg) ministers in Mauryan to Mughals
- men considered stronger, pragmatic owing to false discourses.

gender biases

- women's role limited to child-rearing, family responsibilities
- low GER enrolment in higher education (25%)
- low LFPR for women: 26% (labour force participation
- Early marriages : 25% married before 18 age NFHS-5
- 25% women do not have family decision making say NFHS-5
- Patriarchy, son-meta preference, domestic violence, dowry, female foetitude continues

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Measures to address the issue

(1) Legal measures

(a) Companies Act amendmendment to have female in boards (Uday Kotak Committee)

(b) Mandating diversity requirement to avail tax benefit (South Africa does)

(c) Strengthening POSH Act 2013 and ICCs to prevent harassment

(d) Stronger implementation of Nirbhaya Fund, IPC to protect women during workplace commute

(e) Paternity leave to put equal onus of child care on men.

(2) Social measures

(a) From Beti Bachao to Badlav
→ social influencers campaign to save, protect and educate girl child
(eg) Campaign by Saina Nehwal

(b) Actions on Healthcare (Matru Vandan), Education (RTE), Entrepreneurship (Standup, NRLM, Womaniya GEM, Mahila Haats etc)

Women are shakti and powerhouse, hence we should treat them as equals in all domains

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GENERAL STUDIES (TEST CODE : 2091)

Name of Candidate	Sameer Khode		
Medium Eng./Hindi	English	Registration Number	1531081
Center	online	Date	

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
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9	10	
10	10	
11	15	
12	15	
13	15	
14	15	
15	15	
16	15	
17	15	
18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **HINDI & ENGLISH.**
   इसमें बीस प्रश्न हैं **हिन्दी और अंग्रेजी** में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

Is student recommended for One-to-One mentoring?

Recommended	Strongly Recommended

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

Don't write anything this margin (इस भाग में कुछ ना लिखें)

1. भारतीय कृषि में जल के अकुशल उपयोग के लिए उत्तरदायी कारण क्या हैं? जल उपयोग दक्षता में सुधार के उपाय सुझाइए। (150 शब्दों में उत्तर दीजिए) 10

What are the reasons behind the inefficient use of water in Indian agriculture? Suggest measures to improve water use efficiency. (Answer in 150 words) 10

Indian agriculture consumes 89% of groundwater and similar amount of surface water as well. (CGWB)

Reasons behind inefficient use

① Low irrigation efficiency

(a) ground water and surface irrigation efficiency is 30-50% only with

Probable cause → Run off on field.
→ evapotranspiration losses
→ more pumping than required
→ old pipes / leakage

② Factors aiding inefficient use

→ Free power by certain states
→ High MSP for water guzzler crops — Rice, sugarcane etc
→ Lack of knowledge dissemination regarding water use by KVK, ATMA etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

③. Less penetration of microirrigation
→ <20% as per NITI data.

Measures to improve water use efficiency

① microirrigation → efficiency of 80% (NITI
→ Also leverage drip / sprinkler
→ utilize PMKSY and microirrigation fund

② land use advisory → by Swaminathan Commission
→ To move away from water guzzler crops

③ MSP reforms → to promote water saving crops as millets

④ Sustainable practices → NMSA, MCRA, organic farming, ZBNF
→ mulching, Warabandi etc

⑤ Community efforts → forming water user association to save water and rationalize tariff

Saving water in agriculture will not just help attain SDG 6, but will also boost production and sustainability

Don't write anything this margin (इस भाग में कुछ ना लिखें)

2. भारत में सार्वजनिक वितरण प्रणाली (PDS) के तहत फूड बास्केट में विविधता लाने के सामाजिक, आर्थिक और पर्यावरणीय लाभ क्या हैं? (150 शब्दों में उत्तर दीजिए) 10

What are the social, economic and environmental benefits of diversifying the food basket under the Public Distribution System (PDS) in India? (Answer in 150 words) 10

PDS system in India caters to 80 more individuals under NFSA Act. Hence there is a huge scope for improvements and benefit dissemination.

Economic benefits : diversifying

① Affordable food for masses ⇒ millets, pulses etc. cost lower

② More export opportunity ⇒ for left over stock (eg) millets can be exported

③ less fiscal deficit to government → lower MSP spending on wheat-Rice due to diversification.

Social benefits

① combing hidden hunger : calories and nutrition from millets, pulses etc

② Protien to curb malnutrition via eggs milk etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(3) Benefiting small + marginal farmers who grow subsistence crops as millet, jowar, bajra

(4) More options will aid maternal health, reduce anaemia, stunting, etc. amongst girls as well.

Environmental benefits

(1) More towards water resilient crops
→ Ground water conservation
→ less saline soils

(2) Less fertilizer usage for pulses
→ less leaching & groundwater pollution

(3) Soil texture, biodiversity conservation

(4) Reduced problem of stubble burning (from paddy eg in Haryana)

(5) Dairy products and animal husbandry will provide more manure for crops

Way forward

As per Niti India @ 75 Report, the PDS basket can be diversified to curb hunger as well as to produce wider benefits.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

3. क्या पशुधन क्षेत्रक को पुनः सक्रिय करना भारत के किसानों की संधारणीय आजीविका और आय में वृद्धि सुनिश्चित करने करने की कुंजी हो सकता है? अपने उत्तर के समर्थन में कारण प्रस्तुत कीजिए। (150 शब्दों में उत्तर दीजिए) 10

Can re-energising the livestock sector be the key to sustainable livelihood and increasing the income of Indian farmers? Give reasons in support of your answer. (Answer in 150 words) 10

Livestock sector contributes 1% to GVA in India, and employs 69% of rural women workers. Hence has huge potential.

Livestock & sustainable livelihood

(1) ~~Yearlon~~ Yearlong livelihood by dairy as against seasonal crops

(2) Providing cushion from
→ monsoon shocks
→ crop failure
→ pest attack and low yield.

(3) Diversified options
→ Dairy
→ fisheries
→ goat rearing
→ ~~flip~~ sheep rearing etc.
→ Poultry farming

(4) Also can participate in value addition and food processing
→ via SHGs, NRLM, Food processing schemes (SAMPADA) etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Livestock + increasing farmer income

① Via diversified products → dairy (milk, wool, Paneer etc)
→ via fish products
→ via wool from sheeps.

② Income from manure → Via cow dung
→ goat droppings

③ Adding integrated farming and ZBNF (DTE)
→ Reducing input cost by 30-50%
→ improving earnings

④ Participating in e-commerce supply chain & cooperatives
→ eg Amul milk federation, Big Basket, ITC-ehaupal etc

Way forward → furthering animal husbandry and dairy fund
→ Kamdhenu, Gokul mission etc.
→ PLI scheme for animal husbandry products.

As suggested by Doubling Committee and PM's 4 point plan, livestock sector can help double farmer income and provide livelihood.

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4. क्या आप इस बात से सहमत हैं कि आर्थिक सुधार के बाद की अवधि में उच्च आर्थिक संवृद्धि के परिणामस्वरूप संवृद्धि का लाभ हाशिए पर मौजूद वर्गों तक नहीं पहुंच पाया है, जिससे समावेशी विकास चिंता का एक प्रमुख विषय बन गया है? अपने उत्तर का औचित्य सिद्ध कीजिए। (150 शब्दों में उत्तर दीजिए) 10

Do you agree that high economic growth in the post-reform period has not resulted in growth trickling down to the marginalised sections, rendering inclusive growth a major concern? Justify your answer. (Answer in 150 words) 10

Economic growth since LPG era has been boosted by industrial and service sector.
Yet inclusivity is questionable

growth not trickling down

① oxfam Report ⇒ 1% Indians own 40% of wealth

② Census 2011 ⇒ 22% poor

③ UNDP ⇒ 27% multidimensionally poor in India (down to 15% in 2022)

④ Percapita income: < $ 2300

Inclusive growth a major concern

① Rural poverty ⇒ 40% per capita income of urban areas
⇒ 45% workforce (75% women in Agriculture)

② Weaker section ⇒ Poverty amongst SC/ST range from 50 – 45% (NITI)

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(3) Regional imbalance : Chhattisgarh, Bihar North East lag in growth

(4) Women gender gap earn 40% lesser than men. 61% of work is unpaid.

(5) MSME dwarfism : 50% of MSME dwarf and contribute just 4% to GDP (Eco Survey 2019)

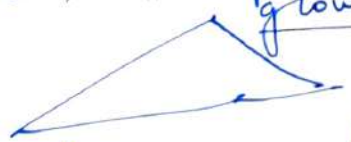
(6) Sectoral growth → manufacturing sector contributes only 17% GVA
→ Agriculture contributes only 18% GVA

Service growth has been higher, but employs lesser workforce

Way forward

(1) India lifted 91 crore out of poverty since 2005 (UNDP) ⇒ proves effectiveness as well.

(2) Hence need to focus on 3 pillars of growth



Social services (NREGA, PMUY, Ayushman Bharat etc)

Employment generation

The LPG reforms should be carefully constructively leveraged to attain not just SDG 8 (growth) but also SDG 10 (equality in growth).

Don't write anything this margin (इस भाग में कुछ ना लिखें)

5. राष्ट्रीय स्वच्छ वायु कार्यक्रम (NCAP) के परिणाम का मूल्यांकन कीजिए। मिशन LiFE वायु प्रदूषण के मुद्दे का समाधान करने में NCAP को कैसे पुनर्जीवित कर सकता है? (150 शब्दों में उत्तर दीजिए) 10

Evaluate the outcome of the National Clean Air Programme (NCAP). How can Mission LiFE reinvigorate the NCAP in addressing the issue of air pollution? (Answer in 150 words) 10

NCAP program aimed at curbing pollution in 131 + non-attainment cities, and was launched in 2019.

Evaluation of NCAP | issues

① Number of cities
⇒ more than 50 cities lagging on Particulate matter (2.5), SOX, NOX levels (DTE Report)

② Issues with installation of:
→ monitoring centres in cities
→ Smog towers, precipitators, scrubbers in industries
→ Laboratories for sampling urban local bodies

③ Capacity building of urban local bodies is needed to
→ use NAAQS, SAFAR, SAMEER etc standards.

NCAP Success

① Rooted culture of Pollution prevention in cities

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(2) Set quantifiable goals : 20-30% reduction in PM 2.5

(3) Focusing on non-attainment cities and infrastructure creation (monitoring labs etc)

Mission Life reinvigorating NCAP

(1) Mission Life pillars
- → Sustainable food
- → mobility
- → Consumption
- → demand sustainability
- → recycling

(2) Mobility reforms can be taken
- → furthering FAME under NEMMP electric vehicles
- → liaise with Automobile bodies to set standards (eg) CAFE

(3) Liaise with energy sector
- → to install scrubbers, precipitators in plants
- → to move towards Renewable energy plants, gas based plants.

Thus mission Life can provide policy, funding, infrastructure and manpower support to NCAP to achieve its objective

Don't write anything this margin (इस भाग में कुछ ना लिखें)

6. पारिस्थितिक तंत्र पर वनाग्नि के प्रभाव की विवेचना कीजिए। वनाग्नि के खतरे से निपटने में UNEP के फायर रेडी फॉर्मूला के महत्त्व का वर्णन कीजिए। (150 शब्दों में उत्तर दीजिए) 10

Discuss the impact of wildfires on the ecosystem. Describe the significance of the UNEP's Fire Ready Formula in dealing with the menace of wildfires. (Answer in 150 words) 10

wildfires refer to large scale fire incidents in forest, which cause great damage to biodiversity and ecosystem.

Impact of wildfires on ecosystem

① Negative impact
(a) Damage to flora and fauna
(b) soil erosion due to damage to green cover
(c) out migration of species and impact on food web
(d) Release of soil carbon
(e) Release of soil moisture, soil cover, threat to soil biodiversity
(f) Release of Black carbon causing greenhouse effect
(g) Barren land facilitates entry of invasive species ⇒ further threat to biodiversity

eg
→ Hawaii maui
→ Australian fire

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(4) loss to life, property, infrastructure etc. ⇒ observed in Australia.

(2) Positive impact ⇒ nutrient recycling
⇒ curbing weed growth
⇒ soil regeneration.

Significance of UNEP's Fire ready formula

① Creating Corridors in forest to break spread of fire

② Dealing with Invasive species, causing fire eg Lantana

③ Banning infrastructure, mining, power generation, other fire causing activities

④ Community participation in forest management

⑤ Global cooperation to deal with inter-state fires (eg) Greece fire.

⑥ Also dealing with UNFCCC to reduce impact of global warming

If Forest-fire is curbed then life above earth (SDG - 15) and will be conserved, also climate change will be tamed.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

7. हाल ही में, भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) ने लघु उपग्रह प्रक्षेपण यान (SSLV) नामक अपना नया रॉकेट प्रक्षेपित किया। इसके क्या लाभ हैं? आने वाले वर्षों में SSLVs इसरो के लिए कैसे गेम चेंजर सिद्ध हो सकते हैं? (150 शब्दों में उत्तर दीजिए) 10

Recently, the Indian Space Research Organization (ISRO) launched its new rocket called Small Satellite Launch Vehicle (SSLV). What are its advantages? How can SSLVs be a game changer for ISRO in the years to come? (Answer in 150 words) 10

SSLV rocket enables launching of smaller satellites, and thus can democratize space sector for smaller nations and players in private sector.

Advantages of SSLV

1. Low cost of cost of launch
   - ⇒ as compared to PSLV, LVM, French Ariane Rocket etc
   - ⇒ Benefit smaller startups and nations like Bhutan.
2. Placing multiple satellites at once
3. Can reach multiple orbits in same mission (polar, Geosynchronous etc)
4. More private sector participation in India (eg) Agnikul etc. startups

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(5) Can help launch
⇒ Nano Satellites
⇒ 3 D printed Satellites
⇒ Educational Satellite (eg) Kalamsat

Game changer for ISRO

(1) Global player image
⇒ Commercialize space launch to more nations and ~~countries~~ private companies

(2) more revenue via Antrix, NSIL etc

(3) ISRO can leverage revenue to focus on ⇒ Gaganyaan
⇒ Shukrayaan
⇒ Space station launch

(4) Growth of startup ecosystem in India

(5) ISRO can attract more talent from abroad and India as many players are interested in small satellite launches.

SSLV can play a key role in taking space sectors to untouched sectors and players, and thus democratize the sector.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

8. बायोपाइरेसी विकासशील विश्व के मौजूदा पारंपरिक ज्ञान के लिए प्रमुख चिंता का कारण क्यों है? भारत सरकार द्वारा मौजूदा पारंपरिक भारतीय ज्ञान की सुरक्षा के लिए क्या कदम उठाए गए हैं? (150 शब्दों में उत्तर दीजिए) 10

Why is biopiracy a cause of great concern to the existing traditional knowledge of the developing world? What steps have been taken by the government of India for protecting the existing traditional Indian knowledge? (Answer in 150 words) 10

Biopiracy refers to unjustly using intellectual property of traditional knowledge for commercial gains.

Biopiracy as a cause of concern to traditional knowledge

(1) Deprive indigenous communities from Access - Benefit sharing

(2) Benefits MNCs in global arena

⇒ They exploit commercially the free knowledge (eg) Haldi Patent by MNCs

⇒ Also do evergreening of patents

⇒ Raise cost of medicines and products

(eg) high cost of Ayurvedic cough medicines by global players

(3) knowledge is distorted: by mixing

Don't write anything this margin (इस भाग में कुछ ना लिखें)

modern chemical formulations with it.

(4) Loss of identity for tribals, native people → often propriety knowledge is lost.

Steps taken by India to protect

(1) TKDL → Traditional knowledge data Portal

→ provides details of all formulations

(2) Biodiversity Act 2002

⇒ setting up State, District and National Committees

⇒ deal with approvals for knowledge usage and benefit sharing.

(3) Accession to UNCBD, Nagoya protocol, Aichi targets, Kunming Protocol

⇒ for Access Benefit sharing

(4) Vanbandhu kalyan, Vandhan kendra, Tribal Haats, Ayush programs to promote knowledge.

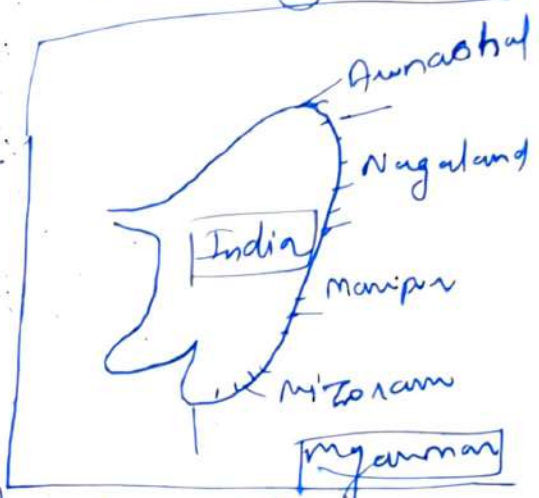
Traditional knowledge needs to be safeguarded to curb biopiracy and also empower local communities.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

9. असम राइफल्स को पूर्वोत्तर भारत में सीमा प्रबंधन और उग्रवाद से निपटने में किन चुनौतियों का सामना करना पड़ता है? चर्चा कीजिए कि कैसे इन चुनौतियों के समाधान हेतु इस बल के फोकस में बदलाव की आवश्यकता है। (150 शब्दों में उत्तर दीजिए) 10

What are the challenges faced by the Assam Rifles with regard to border management and tackling of insurgency in North-East India? Discuss how these challenges require a reorientation of the force. (Answer in 150 words) 10

Assam rifles is oldest paramilitary force responsible for guarding indo-myanmar border



Assam Rifles area

challenges faced by Assam Rifles

① Terrain : dense forest, rivers changing course, Tribal belts along border

② Insurgency across border : ULFA, PLA manipur, Chin Army etc
⇒ Refugee crisis after Coup in Myanmar

③ Support by China & Pakistan to insurgents

④ Open access & trade with myanmar helps insurgent movements via Haats

⑤ Border guarding infra (Fencing, Laser, GPS)

Don't write anything this margin (इस भाग में कुछ ना लिखें)

etc is lagging

(6) Coordination with multiple agencies → Army, NEB, State police, Others

(7) Ethnic conflicts and tensions creating issues
→ Attack on convoy in manipur

(8) Transnational crimes → drug triangle.
→ Arms smuggling
→ Drug & Human trafficking etc.

Challenges requiring reorientation

(1) Ending dual control of MHA and Defence ministry ⇒ putting control with Defence ministry

(2) Border infra upgrade / Madhukar Gupta Committee) - BOLD-IT, CIBMS, etc

(3) use of drones, laser etc for tracking movements

(4) Cross border Coordination with Myanmar Junta

(5) Pension, salary reforms
Thus Assam Rifles is a crucial force in need of support from centre

Don't write anything this margin (इस भाग में कुछ ना लिखें)

10. अंतरिक्ष में शस्त्र स्थापित करने की होड़ अंतरिक्ष को शस्त्रों के संघर्ष का अगला युद्ध क्षेत्र बनाते हुए जल्द ही उस सीमा को पार कर सकती है जहां से वापस लौटना संभव नहीं होगा। अंतरिक्ष के शस्त्रीकरण के लिए उत्तरदायी संभावित कारण क्या हैं? इसके निहितार्थों पर चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10

The race to put weapons in space may soon pass the point of no return making space the next theatre of arms struggle. What are the possible reasons behind the weaponization of space? Discuss its implications. (Answer in 150 words) 10

Weaponization of space refers to placing on weapons in lower earth orbit (LEO) and beyond. It is an emerging challenge to peace and security.

Reasons behind weaponization

1. Legal loophole
   - (a) after space treaty bans placing conventional weapons
   - (b) But Nuclear weapons are not controlled
2. geopolitical race
   - (a) Cold war (alleged) between USA & China
   - (b) Russian aggression in space (Ballistic missiles)
3. Technological advancements
   - (a) In Ballistic (ICBM), Hypersonic technologies
   - (b) launch vehicle modernization
4. Anti-space missiles
   - (a) like ASAT / Shakti (India) causes countries like China to

Don't write anything this margin (इस भाग में कुछ ना लिखें)

further weaponize space

(5) Space advantages in combat

⇒ non traceability of weapons
⇒ difficult to destroy
⇒ can launch surprise attack

Implications → Nuclearization of space
→ Space debris will rise
→ Threat to smaller states (non-capable in space)
→ Focus shifting from peaceful use of space to military
→ Geopolitical conflicts to rise

Way forward

(1) Boosting outer space treaty 1967 and liability convention, to include nuclear weapons

(2) Space situation maritime domain awareness mechanisms

(3) NPT like treaty to disarm space.

Space is a global common, hence should be leveraged for socio-economic good, than for creating tensions.

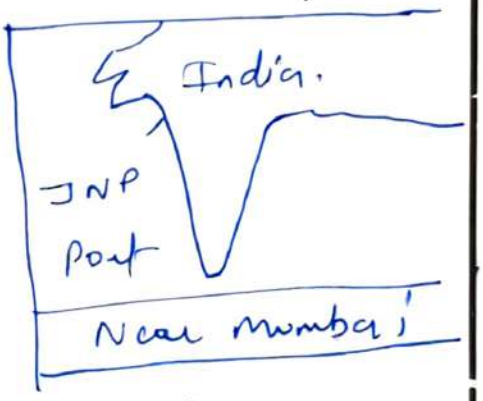
Don't write anything this margin (इस भाग में कुछ ना लिखें)

11. हाल ही में, जवाहरलाल नेहरू पत्तन (JNP) भारत का पहला 100% लैंडलॉर्ड पोर्ट बन गया है। लैंडलॉर्ड पोर्ट मॉडल से आप क्या समझते हैं? पत्तनों के प्रबंधन में प्रयुक्त विभिन्न मॉडल कौन-से हैं? (250 शब्दों में उत्तर दीजिए) 15

Jawaharlal Nehru Port (JNP) recently became the first 100% Landlord Port of India. What do you understand by the Landlord Port model? What are the different models employed in the management of ports? (Answer in 250 words) 15

Landlord port model is an emerging concept which involves private parties in port operation. Given that 90% of trade by volume of India passes through ports, it is of importance

Land Lord Port model



(1) ownership
→ Rests with Port Authority
→ of land, machinery, docks, Rail lines

(2) Private Sector :- Roped in to run the port operations

(3) Based on Contract mentioning obligations of port-authority and responsibility of private player

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(4) Responsibility of Port Authority:

→ Providing right of way & access
→ Access to port control room
→ Manpower in critical operations to be provided
→ Oversight mechanisms

(5) Responsibility of Private Player

(a) Port operation, docking of ships
(b) operation of Games, Container depots
(c) Running rail operations
(d) Technology & manpower placement

(6) Advantages of landlord model (by Private party)

(a) Bring efficiency & reduce turnaround time (3-4 days as compared to 1 day in Singapore)
(b) Boost capacity utilization of ports from current 55 % (Niti)
(c) Bring newer technologies such as RFID, GPS, larger container stacking
(d) Bring operational capital to run

Don't write anything this margin (इस भाग में कुछ ना लिखें)

the port..

(1) Advantages for government
(a) Cost reduction
(b) Efficiency gains
(c) Can leverage best practices for other ports

Different models employed in Ports

(1) PPP model
(a) HAM (Hybrid Annuity), BOT, DBOT, EPC model (construction only)

(2) Greenfield construction + operation
(a) eg: Wardhan port
(b) Private party can be a concession aire (government provides land)

(3) government run ports
(a) Government Port Authority runs, and employs private party only in technical operations (b) vizag port

Way forward
under Sagarmala and Gati Shakti initiative Land lord model can be further employed along with along PPP models to make India a shipping hub.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

12. भारत में कृषि मशीनीकरण को बढ़ावा देने के लिए शुरू की गई कृषि मशीनीकरण पर उप-मिशन (SMAM)) योजना के प्रदर्शन का विश्लेषण कीजिए। (250 शब्दों में उत्तर दीजिए) 15

Analyse the performance of the Sub-Mission on Agricultural Mechanization (SMAM) scheme launched to promote farm mechanization in India. (Answer in 250 words) 15

Agri mechanization in India will help boost agricultural productivity as well as quality of produce. In this context SMAM scheme is of immense importance.

Performance of SMAM scheme : Positives

(1) Boosted extent of mechanization
(a) currently 40% of area under cultivation is catered by mechanization

(2) New equipments
(a) Harvesters, thrashers, seeders have been introduced

(3) Equipment pooling
(a) via Self Help groups, cooperatives
(b) uber-like mechanization has been created in some villages

(c) Happy seeders, Harvesters etc

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(c) Helps small & marginal farmers who cannot afford buying equipment.

(4) Subsidized credit — (a) For buying tractors, pumps etc

(5) Newer technologies — (a) Moved focus also to drone based techniques.

(6) Farmgate infrastructure — (a) SMAM helped create infra structure at farmgate and linkage with Agri-value chains.

Shortcomings of SMAM

(1) Lower fund allocation — (a) As a portion of Agri Infra structure development fund

(2) Lack of monitoring mechanism — (a) At village and block level to track progress

(3) Lack of awareness — (a) Amongst farmer regarding schemes
(b) Many krishi vigyan kendras

Don't write anything this margin (इस भाग में कुछ ना लिखें)

also do not have information

(4) Affordability (a) even after subsidy, small + marginal farmers (86%) cannot afford

(5) Credit issues (a) Banks wary of lending without collateral

(6) Lack of Producers (a) Producers of agri equipment are low in number and geographically concentrated in North and West India

Way forward

(1) Launching PLI scheme for mechanization

(2) Launching pooling of equipment and rental mechanism for small + agri marginal farmers

(3) Providing subsidy for stubble management equipment to also aid environment conservation

(4) Capacity building of FVCs, ATMA, Kisan Suvidha App etc to boost mechanization

Agri mechanization via SMAM can help boost farmer income (Dalwai Committee). Hence proper steps are needed to give a boost.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

13. खाद्य प्रसंस्करण क्षेत्रक की अप्रयुक्त क्षमता का दोहन करने और इसके सामने आने वाली चुनौतियों का समाधान करने में डिजिटलीकरण की क्षमता पर चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15

Discuss the potential of digitization in harnessing the untapped potential of the food processing sector and resolving the challenges that it faces. (Answer in 250 words) 15

Food processing sector in India contributes 1% to GVA (Niti Ayog). And many households in rural area are dependent on it.

Untapped potential of food processing

1. Food diversity
   - India is home to ~~12~~ 15 Agro climatic zones, thus scope for
     - Horticulture
     - fruits
     - coffee
     - Tea
     - Spices
     - mushroom etc
     - dairy

2. value addition
   - By estimates, 10-20% horticulture and fruits are put to value addition

3. Labour Potential
   - Rural India has 67% workforce in Agriculture → It can be put to productive work in food sector

4. Animal Husbandary
   - Provides 5% contribution to GVA, and huge scope is there

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Challenges faced by food processing sector

1. **Farmgate infra**
   - (a) lagging, and hence 40% of horticulture and foodgrains 300 Crore worth wasted (CAG report)

2. **Value addition**
   - (a) Industries, machinery, skills lacking in rural area

3. **Storage + transport**
   - (a) only 1% of cold storage of required is available
   - (b) Issues with sorting, grading transport etc.

4. **Marketing**
   - (a) APMC issues (centralization sorting, grading, price discovery)
   - (b) lack of marketing, branding, shelf life improvement

5. **Entrepreneurship issues**
   - (a) availability of credit, marketing support etc (44% credit is non-institutional)

Digitization of food processing

Farmgate infra ⇒ transport ⇒ Cold storage ⇒ value addition ⇒ Distribution and marketing

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(1) Farmgate infra (a) use of drones, mechanization for harvest, sorting, grading

(2) Transport (a) use of reefer, cold storage trucks to transport

(3) Cold Storage (a) PPP mode can be utilized to create warehousing
(b) digital inventory management and temperature control

(4) Distribution (a) use of GPS, RFID, GIS for creating hub & spoke mode
(eg) used by ITC e-choupal

(5) value addition (a) using colour / ripening sensors
(b) Irradiation, nano technology based on data analysis

(6) marketing (a) using e-nam for upstream marketing and price discovery
(b) using GeM, Agmarknet, ONDC etc for downstream marketing

therefore if digitization is done in a pragmatic manner, food processing sector can get rid of challenges and grow faster.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

14. भारत में भू-अभिलेखों के आधुनिकीकरण का क्या महत्व है? इस आलोक में राष्ट्रीय जेनेरिक दस्तावेज पंजीकरण प्रणाली (NGDRS) की विशेषताओं का वर्णन कीजिए। (250 शब्दों में उत्तर दीजिए) 15

What is the significance of land record modernization in India? In this light, state the features of the National Generic Document Registration System (NGDRS). (Answer in 250 words) 15

India has 57% of land under cultivation (Agri census). The rest is also under productive use in forestry, urbanization or industrial use. Hence land record modernization is an imperative

Significance of land record modernization

1. Creating inventory
   - of all land parcels for policy clarity
2. Removing disputes
   - Assigning clear titles and resolving disputes
3. Facilitating credit
   - The land identification will help credit dissemination and land can be used as collateral
4. Slum rehabilitation
   - Identifying government land and redistributing land patta can be done, if records are

Don't write anything this margin (इस भाग में कुछ ना लिखें)

digitized.

(5) Ease of doing business
(a) land leasing (Haque Commn)
(b) land filling (Niti Aayog)
(c) land acquisition for projects will be facilitated.

(6) Agriculture growth
(a) Subsidy, fertilizer, power, inputs can be properly delivered to owners as well as to tenants
(b) Tenancy reforms can also be done

(7) Social significance
(a) Reducing animosity in rural areas due to disputes
(b) Creating sense of social prestige by clarity of ownership
(c) Reduction in judicial cases.

Features of NGDRS

(1) Identification of land parcel

→ Data entry into system

→ matching with govt records

→ Assigning Bhu-Aadhar under DILRMP project.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(2) Technologies used
(a) Blockchain
geotagging
Aadhar & PFMS linkage
Data sharing with banks
Inter-operability of data

(3) Procedure
(a) Identification of land and assigning ownership based on supportive documents.

(4) Supporting schemes
(a) Digital India land record modernization (DILRMP)
(b) Svamitva
(c) NREGA Asset creation / linkage with GeoMNREGA
(d) Subsidy distribution under PMKISAN, PMAY (Awas Yojana) etc.

Way forward
→ Capacity building of Panchayati Raj and municipal staff
→ Formulating dispute resolution mechanism
→ Bridging digital divide for users

Thus NGDRS can be a game changer in economy of land management in India.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

15. 'प्रधान मंत्री फसल बीमा योजना' की शुरुआत से ही प्रौद्योगिकी के उपयोग ने इसकी सफलता में महत्वपूर्ण भूमिका निभाई है। चर्चा कीजिए। इस योजना को अधिक किसान-अनुकूल बनाने के लिए और क्या बदलाव किए जा सकते हैं? (250 शब्दों में उत्तर दीजिए) 15

The use of technology has played a key role in the success of the 'Pradhan Mantri Fasal Bima Yojana' since its inception. Discuss. What further changes can be incorporated to make the scheme more farmer-friendly? (Answer in 250 words) 15

Pradhan Mantri Fasal Bima Yojana (PMFBY) aims at providing insurance coverage to farmers for crops and thus saving them from monsoon shocks and disaster induced losses

PMFBY
- → for Rabi & Kharif crops
- → Includes Horticulture also
- → 2% premium for kharif of value
- → 1.5% premium for Rabi crops
- → 5% for horticulture
- → subsidy on premium to be paid by State & central government

Use of technology in PMFBY

Satellite data on land, weather

PFMS payment

drones survey

Aadhar / mobile of farmer

geotagging : farms

Farm

Don't write anything this margin (इस भाग में कुछ ना लिखें)

1. Geotagging ⇒ of farm land / parcel
2. Drone ⇒ For imagery of crop upon harvest
   ⇒ to assess damage upon disaster
3. Land Records ⇒ To link geo-tagged farm to
   - Bank credit
   - Aadhar and mobile data of farmer
   - Insurance Company
4. Satellite data ⇒ To estimate kind of damage/disaster taking place
5. Image recognition ⇒ to estimate damage due to animals, fire, pest etc
6. Financial data ⇒ JAM trinity of farmers linked with ⇒ PFMS
   ⇒ Insurance Company
   ⇒ Real time tracking of payment of premium
7. dispute resolution ⇒ ~~do~~ Can be done via UMANG, CSC using internet portals

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Further changes to make farmer friendly

① use of AI ⇒ to estimate damage based on change in crop / leaf colour
⇒ change in crop height, crop status etc

② use of blockchain ⇒ to link weather, harvest, land, insurance company, farmer details all at once
→ This will save multiple steps and coordination for farmers

③ linkages of drones, LLC, FPOs, KVKs, ATMA & insurance company
⇒ to estimate damage on real time and release payments

④ using financial ERP linking state, centre and insurance company ⇒ to track subsidy payment from centre to state, premium payment to insurance company and loss payment to farmers

Above steps can help PMFBY be farmer friendly, and also provide them income security

Don't write anything this margin (इस भाग में कुछ ना लिखें)

16. चर्चा कीजिए कि कैसे नवीकरणीय ऊर्जा की ओर ट्रांजिशन भारत में महिलाओं के जीवन को बदलने और उनकी पूर्ण क्षमता को उजागर करने का सामर्थ्य रखता है। (250 शब्दों में उत्तर दीजिए) 15

Discuss how the transition towards renewable energy has the potential to transform the lives of women in India and unlock their potential. (Answer in 250 words) 15

Renewable energy transition is need of the hour owing to climate change (SDG 07 and 13). But it can also help women lead a better life.

Transition to Renewable energy
- Solar power plants
- Solar cookers
- Biogas based plants
- wind energy
- LPG gas cylinders

Potential to transform lives of women

(1) Increased energy availability

(a) ECo survey 2019 highlighted Energy - Human development nexus

(b) women will spend less time on fetching water from well if pumps are available

(c) women education in schools, Healthcare in PHCs will be improved

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(8) Improvement in literacy, IMR, MMR, Anaemia

(2) Entrepreneurship (1) Energy availability from renewable as against power cuts will help

- SHGs
- Small MSMEs
- Women cooperatives
- Microfinance Companies

⇒ this women participation in Labour Force (LFPR) will grow from current 25% (PLFS)

(3) getting rid of firewood (a) Due to adoption of solar cookers, LPG, Biogas

(b) less time spent on collecting firewood (1 Hrs daily - CSDS)

(c) less pollution and pulmonary diseases

(4) Farming improvement (a) Availability of decentralized solar power in farms can improve mechanization, and reduce mechanical work for women

(b) Also more cold storage, food processing, animal husbandry units can be formed.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(5) Safety — Streetlights due to Ujala, AJAY scheme can improve safety aspect for women

(6) Availability of water in toilets owing to decentralized pumps can permanently eliminate open-defecation
⇒ Dignity of women

Unlocking women potential

(1) Entrepreneurial potential
(2) Human capital formation
(3) more earning ⇒ focus on nutrition, healthcare, maternal health, skilling
(4) Reducing impact of patriarchy
(5) Attain SDG all at once
- (5) women empowerment
- (7) clean energy
- (8) Economic growth
- (10) reducing inequality

Way forward

The Panchamrit announced at COP26 can be coordinated with Gram Panchayat plans (Sabki Yojana) and municipal bodies for efficient implementation of renewable energy projects.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

17. जलवायु परिवर्तन भारत द्वारा भुखमरी और कुपोषण दूर करने में सामना की जाने वाली चुनौतियों में कैसे वृद्धि कर रहा है? 2030 तक शून्य भुखमरी प्राप्त करने की भारत की प्रतिबद्धता के संदर्भ में चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15

How does climate change exacerbate the challenges that India faces in eliminating hunger and malnutrition? Discuss in the context of India's commitment to achieve zero hunger by 2030. (Answer in 250 words) 15

India has 33% children stunted (NFHS5) and 16% population is multidimensionally poor, and hunger being a key reason for it. In this context challenges to eliminate hunger needs to be studied.

India's commitment to achieve Zero hunger by 2030

① As per UN SDG #2 to eliminate hunger

② As per Poshan Abhiyan 2.0 ⇒ Saksham Anganwadi and Poshan

③ As per Constitutional ideals of social justice (Art-38) and eliminating hunger Art-21 and 43

④ Supported by National Food Security Act 2013

but climate change is creating challenges in attaining these goals.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Challenges posed by climate change

① Lower agricultural yield

⇒ DTE report — 10% reduction in kharif yield, especially in central India and North West India

② Natural disaster inflicted hunger

⇒ Cyclone, landslide, Tsunami, cloudbursts

impact → Agricultural yield

→ food supply chains

→ food storage by FCI

⇒ cause loss of livelihood, disability

→ Impacts affordability of populace

→ Also more spending on health than nutrition needs to be made

③ Impact of heatwave & cold wave

→ Induces crop damage

→ As per ILO Heatwave cause productivity loss and calorie loss, thus inducing hunger

④ Maternal health and nutrition

⇒ owing to damage to social infra, maternal

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Health is impacted
→ more non-institutional deliveries
→ less ante-natal & post-natal care & nutrition
→ results in IMR (Infant mortality) and maternal mortality

(5) Government finances
(a) More spending on adaptation and mitigation
→ renewable energy subsidy
→ Power plants on solar, wind
(b) less loans for social spending due to fiscal deficit.

⇒ Impacts allocation to
- Mid day meal / Posham
- NFSA
- NFSM
- Ayushman Bharat
- Matru-vandan etc.

way forward

(1) Investing in climate smart Agriculture: NMSA, NICRA, ZBNF, organic to preserve yield

(2) Following Sendai Framework for Disaster risk reduction, and also to make food and health supply chain robust.

Given India ranks 94th on climate risk index, steps should be taken to preserve hunger initiatives.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

18. डिजिटल ट्विन प्रौद्योगिकी से आप क्या समझते हैं? इसे अपनाने के लाभ और चुनौतियां क्या हैं? (250 शब्दों में उत्तर दीजिए) 15

What do you understand by digital twin technology? What are the benefits and challenges in its adoption? (Answer in 250 words) 15

Digital twin technology refers to creation of dual assets using digital linkage of any asset on database.

Digital twin

① powered by Quantum technology
eg. quantum entanglement.

② Internet of things (IoT) can help connect devices

③ Wearable devices can help link physical and bio-chemistry traits of human beings

④ AI (Artificial Intelligence) can help predict behaviour of one machine on human beings

⇒ Impact and behaviour of other entity can also be programmed.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Application and benefits of technology

① Human linkage
- (a) Two humans can be linked
- (b) Can help in coaching, mentoring, training, behavior modification

② machine linkage
- (a) Remotely Controlled machines can be of value in
  - Industrial automation
  - Defence tech
  - Robotic surgeries
  - Supply chain activities (e.g. in ports.)

③ Furthering
- → Telemedicine
- → E-Sanjeevani initiative
- → Distance learning (eg) Prayagta, PM-E vidya etc initiatives.

④ Also can be applied in
- → Space science (manned missions)
- → quantum technology (superimposition, entanglement etc.)

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Challenges with digital twin adoption.

(1) Ethical (a) tampering with behavior of humans and machines

(b) Intrusion into privacy

(2) Cyber security (a) Can make intended benefits go away due to hacking, ransomeware etc.

(b) Digital twin can be weaponized

(3) Data security (a) Data can be harvested by MNCs, states for surveillance or commercial benefits

(4) Algorithms' accuracy (a) Algorithm can develop biases

(b) Thus discrimination, errors may crep in

Therefore, before adoption of this new age technology, proper skilling of users, developers is needed along with robust investment in security of data and algorithms

Don't write anything this margin (इस भाग में कुछ ना लिखें)

19. आतंकवाद के वित्तपोषण पर अंकुश लगाने हेतु किए गए अनेक प्रयासों के बावजूद अंतर्राष्ट्रीय समुदाय के लिए यह एक मुख्य चुनौती बना हुआ है। चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15

Terrorism financing continues to remain a major challenge for the international community despite several efforts to curb it. Discuss. (Answer in 250 words) 15

Terror financing is a cross border phenomenon, and happens by exploiting lacuna in financial and payment systems of a nation.

Terror financing mechanisms | challenges

- Hawala & money laundering
- crypto-currency and darknet.
- Counterfeit currency, corporate crimes.
- Blackhole syndrome : funding by organized crime
- State sponsored financing (Eg LeT funded by ISI etc.

Efforts to curb terror financing

(1) Domestic efforts (a) legal
- PMLA to curb money laundering
- NIA, UAPA Act
- Fugitive offender Act.

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(b) Institutional efforts by
- NIA
- Natgrid
- ED
- DRI
- SFIO
- Customs
- State ATS etc

(c) Data & digital efforts
→ Creation of unified financial database after mumbai attack
→ NSC, IAC, Netra, NTRO, NCIIPC, CERT In to control cyber - financial payments

(d) Corporate measures to wash
- → Round tripping
- → Tax haven funding
- → Benami funding
- → Angel investing in dubious manner

2) International efforts
(a) FATF action plan (Black & grey list)
(b) G20 OECD efforts
(c) UNSC, UNCTC, UNCTS (Strategy) global Counter terrorism Forum
(d) Christchurch call for Action
(e) Sanctions Committee of UNSC - 1267, 2593

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Despite of above efforts challenge remains due to

① → emergence of new technology → blockchain, fintech, dark-web etc

② → Anonymity in financing ⇒ due to dark web

③ → lack of global cooperation

→ CCIT proposed by India is pending

→ Osaka Track, Budapest Convention on financial data / cyber is not globally accepted.

④ Rogue States funding terror

→ Iran (Hezbollah)

→ Pakistan (Lashkar, Jamat-)

→ China (PLA Manipur)

→ ISIS fund by many actors.

Way forward

① World Bank, IMF, Swift system can mechanism to track financial data

② CCIT proposed by India, and Budapest Convention can be linked with FATF

Terror funding knows no boundaries, hence a global effort is required to curb menace.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

20. कृत्रिम बुद्धिमत्ता (AI) में होने वाली प्रगति से राष्ट्रीय सुरक्षा के दृष्टिकोण से अवसरों के साथ-साथ चुनौतियों में भी वृद्धि होगी। भारत के संदर्भ में चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15

Advances in artificial intelligence (AI) will progressively multiply the opportunities as well as challenges from the national security perspective. Discuss in the context of India. (Answer in 250 words) 15

AI is seen as a double edged sword owing to its benefits as well as challenges posed to national security. Hence topic needs scientific, legal & military attention

AI and opportunities for national security

① Precision weapons (a) Drones, Ballistic missile, Aircraft's efficiency can be improved

(eg) laser fired spice missile relies on AI
Heron Drone uses GPS and AI

② Information security (a) Applying algorithms to do ethical hacking and trouble-shooting in critical infra, government datasets

(eg) safeguarding banking data, power grids

③ Social media (a) using AI to identify fake news.

(b) using AI to locate origin of

Don't write anything this margin (इस भाग में कुछ ना लिखें)

information
(c) using AI bots to curb spread

(4) Crowd Control (a) using geo-spatial data + AI to analyze crowd control
(b) useful in curbing → lynching
→ mob violence
→ Riots

(5) Financial (a) Natgrid, GST IN, Travel data by Rail, flight can be clubbed and turned into big data using AI
(b) Monitor - financial + physical movements of terror and crime syndicates
(c) using AI to track counterfeit currency

(6) Border security (a) leveraging AI, lazer, heat sensor to analyze border fencing

(7) LWE (a) using AI, heatmaps, terrain maps to analyze movement of naxals

(8) AI & darkweb (a) using AI to monitor darkweb to monitor organized crime syndicates.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

However AI poses challenges to security

1. New age hybrid warfare can be launched
   - → Drones to drop weapons, drugs
   - → Social media bots to spread false news, radicalization, Hate speech
     - → done during Burhan Wani issue
     - → done by China during Doklam crisis.
2. cyber attack → by AI induced algorithms and bots
   - → e.g. attack on Cosmos Bank, Mumbai power grid
3. Data interception → military, DRDO data was under-attack
4. Financing of terror and Naxals by AI driven crypto-currency, virtual / fungible assets (NFT) etc.
5. use of AI by PLA China or ISI to target Indian cities by Hypersonic, ICBMs

Way forward

National AI mission can have a defence component as well and can coordinate with tri-service Command, CAPFs and Police for coordinated action.